Devil's Gate
Sediment Removal and Management Project

Application for
Incidental Take of Endangered Species

Prepared for:

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Regional Manager, Region 5: South Coast
California Department of Fish and Wildlife
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May 2016

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Pursuant to Section 783.2 of the
California Code of Regulations Regarding
Section 2081 of the California Endangered Species Act

The following application for incidental take of endangered species under the California Endangered Species Act (CESA) is being submitted to:

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MAY 2016

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(1) Name and Address of Applicant (CCR § 783.2(a)(1))[1]

Applicant: Los Angeles County Flood Control District (LACFCD)

Principal Officer: Mr. Christopher Stone
Assistant Deputy Director
(Telephone – (626) 458-6100), (Fax – (626) 979-5436)

Mailing Address: P.O. Box 1460
Alhambra, California 91802-1460

(2) Species Name and CESA Status (CCR § 783.2(a)(2))

Species: Least Bell's Vireo (*Vireo bellii pusillus*)
Status: State-listed, Endangered

Species: Southwestern Willow Flycatcher (*Empidonax traillii extimus*)
Status: State-listed, Endangered

(3) Description of Project (CCR § 783.2(a)(3))

Purpose and Need

The purpose of the Devil's Gate Reservoir Sediment Removal and Management Project (Project) is to initially remove vegetation and 2.4 million cubic yards (cy) of sediment from a 70.80-acre area within the Reservoir behind Devil's Gate Dam for the purposes of establishing an approximately 52.56-acre permanent maintenance area where sediment will be removed on an annual basis. In order to minimize the level of flood risk to communities located downstream of Devil's Gate Dam in the Arroyo Seco, LACFCD must remove sediment that has accumulated behind Devil's Gate Dam in order to restore the capacity of Devil's Gate Reservoir (Reservoir).

Devil's Gate Dam, which was built in 1920 following floods in 1914 and 1916, is water conservation and flood control facility. In 1978, the State Department of Water Resources Division of Safety of Dams (DSOD) officially imposed an operational restriction preventing the holding of water at Devil's Gate Dam due to concerns with the dam's ability to withstand a major earthquake. In 1998, LACFCD completed a project to seismically rehabilitate Devil's Gate Dam and enlarged the spillway to safely pass the tributary watershed's updated Probable Maximum Flood. This is the required level of flood protection without overtopping the dam. After the modifications to the dam were completed, the DSOD restriction was removed, which restored use of the dam and Reservoir to its full operational capacity, including providing the potential for water conservation. The project improvements resulted in Devil's Gate Dam meeting current maximum credible earthquake design standards and probably maximum flood design standards.

[1] Unless otherwise noted, all references refer to Title 14 of the California Code of Regulations (CCR).

The Reservoir captures storm water, sediment, and debris during storm events and retains storm water to prevent high flow rates from overwhelming the downstream flood control channel. The outflow from the Reservoir is controlled by three outlet corridors: a low level gate, the outlet valve, and the outlet tunnel gates. These allow the dam to make controlled releases up to 5,500 cubic feet per second (cfs). Controlled releases are made through the outlet valve and tunnel gates after the Reservoir has impounded stormwater. During major storm events that exceed the capacity of the valves and gates, the dam is designed in a way that allows the Reservoir level to rise until flow discharges uncontrolled through the spillway ports and then over the spillway.

Sediment removal efforts have previously occurred in the Reservoir to allow some ability to maintain the capacity of the Reservoir and to remove sediment from the face of the dam to ensure the outlet works function correctly. The sediment removal activities are granted under the LACFCD's Devil's Gate Dam and Reservoir Easement with the City of Pasadena and are performed in accordance with the California Environmental Quality Act (CEQA). The last major sediment removal project was conducted in 1994 when 190,000 cy were removed and trucked offsite. Two smaller sediment removal projects were also conducted in 2006 and 2009 when 14,000 cy and 3,800 cy were removed, respectively.

Additional sediment removal activities have been conducted as part of the Interim Management Project (IMP), which includes minor dam modifications to help keep debris from plugging the outlet works and to reduce downstream flood risk. The IMP allows for the removal of up to 25,000 cy of sediment per year from the dam face and the sediment is placed at Johnson Field, a former sports field. Sediment removal activities associated with the IMP have been conducted in 2012, 2013, 2014, and 2015.

The Station Fire of 2009, which was the largest fire in recorded history of the Angeles National Forest (est. 1892), resulted in a dramatic increase in the amount of sediment accumulated behind Devil's Gate Dam. Approximately 68 percent of the watershed for the Reservoir (approximately 100 percent of the undeveloped portion) was burned, resulting in the inevitable deposition of sediment during subsequent storm events. The storms that occurred in the two wet seasons following the fire increased sediment accumulation in the Reservoir by approximately 1,300,000 cy. The Reservoir, in its current condition, no longer has the necessary capacity to safely contain another major debris event and the outlet works have a risk of becoming clogged and inoperable. Too much sediment accumulation in the Reservoir can affect the ability of the outlet works to function correctly and potentially reduce the Reservoir capacity to below what is necessary for flood control storage or to safely contain future sediment inflow, including the Design Debris Event (DDE). The DDE is the estimated amount of sediment that could flow into the Reservoir after the undeveloped portion of the tributary watershed is completely burned and a 50-year design storm event occurs after four years of watershed recovery. The 50-year design storm and the DDE are defined by the [2]Los Angeles County Department of Public Works Hydrology and Sedimentation Manuals, respectively.

[2] The Hydrology Manual (January 2006) and The Sedimentation Manual (March 2006), published by Los Angeles Department of Public Works.

The Los Angeles County Flood Control Act (Act) was adopted by State Legislature in 1915 after a disastrous regional flood took a heavy toll on lives and property. This Act established the LACFCD and empowered it to provide flood protection and water conservation within its boundaries.

LACFCD established the required design capacity at Devil's Gate Dam to be two DDE's to ensure that the Reservoir always has a capacity to maintain the level of downstream flood protection. By establishing the design capacity at two DDE's, the Reservoir is likely to have sufficient capacity to experience a design-level storm or several smaller but significant debris events and still maintain capacity of at least one DDE until the construction process is completed to remove the debris. Additional factors related to dam safety may also support the need to remove sediment from the Reservoir. Depending upon the structural stability of the dam, the height of sediment against the dam may need to be limited because sediment weighs more than water and this increases the forces on the dam during an earthquake. In addition, the volume of sediment accumulation behind the dam may need to be limited to prevent blocking of the valves/operations because if debris blocks the outlet valves, they cannot be effectively used to regulate storm flows or to empty the Reservoir during an emergency. In order to minimize flood risk for Devil's Gate Dam and Reservoir, the required Reservoir capacity is based on debris control and is 4.0 million cy (two DDE's) below the spillway elevation of 1,040.50 feet. The DDE for the Devil's Gate Reservoir is approximately 2 million cy. As a result of sediment deposition following the 2009 Station Fire, the available capacity in the Reservoir is less than one DDE. Therefore, sediment removal is required to maintain flood control capacity behind the dam.

During preparation of the Environmental Impact Report (EIR) for the Project, Alternative 3, Configuration D, Option 2 was selected as the Environmentally Superior Alternative (Alternative 3, Configuration D) in the Project EIR, which avoids impacts to existing jurisdictional waters and buffer habitat located in the western portion of the Reservoir. Alternative 3, Configuration D affects the least amount of habitat of all the action alternatives, while still achieving Project objectives. With this alternative, excavation activities will remove approximately 2.4 million cy of current excess sediment in the Reservoir in addition to any additional sediment received during the project. Initially, the vegetation and 2.4 million cy of sediment will be removed from a 70.84-acre area within the Reservoir behind Devil's Gate Dam for the purposes of establishing an approximately 52.59 acre permanent maintenance area where sediment will be removed on an annual basis.

Project Goals and Objectives

The Project will remove sediment from the Reservoir to restore the design capacity and establish a reservoir management system to maintain the flood control capacity in the Reservoir. This will include the removal of 2.4 million cy of current excess sediment in the Reservoir and any additional sediment received during the sediment removal phase of the Project. Annual sediment removal will be conducted to maintain the design capacity of the Reservoir. The primary objectives of the project include:

- Reducing flood risk to the communities downstream of the Reservoir adjacent to the Arroyo Seco by restoring reservoir capacity for flood control and future sediment inflow events;
- Supporting sustainability by establishing a reservoir configuration more suitable for routine maintenance activities including reservoir management;
- Removing sediment in front of the dam to facilitate an operational reservoir pool to reduce the possibility of plugging the outlet works with sediment or debris during subsequent storm events;
- Removing sediment placed at Johnson Field during the IMP;
- Supporting dam safety by removing sediment accumulated in the Reservoir in a timely manner to ensure the ability to empty the Reservoir in the event of a dam safety concern; and,
- Delivering the sediment to placement or reuse facilities that are already prepared and designated to accept such material without native vegetation and habitat removal.

Project Impacts and Mitigation

The removal of vegetation and 2.4 million cy of sediment from the approximately 70.84-acre Project footprint is considered a direct impact resulting from the Project activities. Following the initial removal phase, ongoing annual sediment removal maintenance activities will be conducted in an area of approximately 52.59 acres. The Project impacts include the permanent removal of 8.80 acres and the temporary removal of 1.89 acres of riparian vegetation communities that could provide migratory habitat for the least Bell's vireo and non-nesting habitat for the southwestern willow flycatcher. The total impacts of the initial vegetation and sediment removal is 10.69 acres, which includes the permanent removal of approximately 0.80 acre of riparian woodland that was potentially occupied by a least Bell's vireo family group in 2015 and the permanent removal of approximately 8.00 acres and the temporary removal of approximately 1.89 acres of marginally suitable habitat that could potentially be occupied by least Bell's vireos during the nesting season. Focused surveys for least Bell's vireo were not conducted in 2015. The assumption that impacts will occur to occupied territories is only based on incidental sightings of least Bell's vireos during 2015. Focused surveys will be completed in 2016 to define occupied territories and to clarify the impacts. The vegetation is considered marginally suitable because of the extensive distribution of nonnative and invasive plant species in the understory/overstory and because few areas actually exhibit the vegetative structure typically associated with nesting habitat for the least Bell's vireo. Indirect impacts to nesting least Bell's vireos could potentially occur as a result of the presence of humans and construction equipment during sediment removal, fugitive dust, noise, and edge effects.

The overall mitigation package for the Project is designed to satisfy the permit requirements from various agencies, including the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (ACOE), and the Regional Water Quality Control Board (RWQCB). The onsite portions of the overall mitigation package will be conducted in the temporary impact areas and in the areas surrounding the permanent maintenance area. The total area where the Project activities (vegetation and sediment removal and annual maintenance) and mitigation

activities (creation, restoration, and enhancement) will be conducted is approximately 129.60 acres, including 70.84 acres within the Project footprint and approximately 58.76 acres within the Reservoir and outside of the permanent and temporary impact areas where habitat restoration activities will be conducted. To mitigate for the overall impacts of the project on CDFW jurisdictional areas, habitat restoration activities will be conducted in a total of approximately 77.01 acres located outside of the permanent maintenance area.

For the purposes of the ITP, a subset of the total mitigation area will be set aside to mitigate for the impacts to state-listed species. This subset includes approximately 41.34 acres of mostly degraded riparian woodland/scrub and areas supporting primarily nonnative plant species on the west and east sides of the permanent maintenance area. The areas identified as mitigation for the ITP comprise two large areas where habitat restoration activities will be conducted to create, restore, and enhance the habitats to provide the appropriate plant species composition and structure to support nesting least Bell's vireos and migratory least Bell's vireos and southwestern willow flycatchers.

For the purposes of this ITP, approximately 41.34 acres of suitable habitat will be preserved and managed for the long-term for least Bell's vireos and migrating southwestern willow flycatchers. Beneficial impacts to both least Bell's vireo and southwestern willow flycatcher will occur as a result of the preservation and the associated habitat restoration and enhancement activities that will be conducted in the preserved areas to create additional and higher functioning habitat. The areas subject to habitat restoration activities include:

- Creation of approximately 3.44 acres of willow riparian woodland/scrub in Johnson Field where it does not currently exist;
- Revegetation of approximately 5.59 acres of areas where monotypic patches of pepper weed and other nonnative plant species will be removed and replaced with riparian woodland/scrub;
- Revegetation of approximately 1.73 acres of areas disturbed by humans where nonnative plants and weeds will be removed and replaced with riparian woodland/scrub;
- Revegetation of approximately 1.54 acres of areas temporarily disturbed by vegetation and sediment removal will be planted with riparian woodland/scrub;
- Enhancement and revegetation of approximately 2.13 acres in the old mining pit where the area will be re-contoured and planted with riparian woodland/scrub; and,
- Enhancement and revegetation of riparian woodland/scrub in approximately 26.91 acres where nonnative and invasive plant species will be removed from the understory and replaced with native plant species (where appropriate).

Mitigation Goals and Objectives

The goals of the overall mitigation program for the Project are to satisfy all or a portion of the mitigation requirements of each of the Project permits with onsite habitat restoration and to greatly improve all of the habitat unaffected by the Project so it will support a higher diversity of wildlife and provide additional suitable breeding and migratory habitat for the least Bell's vireo, southwestern willow flycatcher, and other listed and sensitive species for the long-term.

The goal of the mitigation for the ITP is to create, restore, and enhance the areas located onsite and outside of the permanent maintenance area in the Reservoir to provide large, contiguous patches of riparian woodland/scrub with the appropriate plant species composition and structure to support breeding least Bell's vireos and migratory least Bell's vireos and southwestern willow flycatchers for the long term.

The objectives of the Project mitigation are:

- Removing and controlling the extensive invasion of perennial pepper weed and other nonnative and invasive weeds to reduce and limit the spread of these species to adjacent and downstream areas;

- Improving the quality and function of the riparian habitat in the Reservoir in order to provide additional foraging and shelter opportunities for migratory least Bell's vireos, southwestern willow flycatchers, and other listed, sensitive, and common species of birds and other wildlife;

- Creating and restoring a larger, more contiguous, and more structurally diverse riparian area in Devil's Gate Reservoir that will not only provide more habitat than currently exists in the Reservoir but will also be able to support the nesting activities of a larger population of least Bell's vireos; and,

- Actively managing the riparian habitats in the Reservoir to ensure the long-term survival of habitat with the appropriate plant species composition and structure to provide opportunities for nesting least Bell's vireos for the long term.

Duration of the Permit

The LACFCD is requesting the term of the ITP to be 25 years to coincide with the duration of the Lake and Streambed Alteration Agreement for the Project.

Project Description

Initial Sediment Removal

Initial excavation activities will remove approximately 2.4 million cy of current excess sediment in the Reservoir in addition to any additional sediment received during the project.

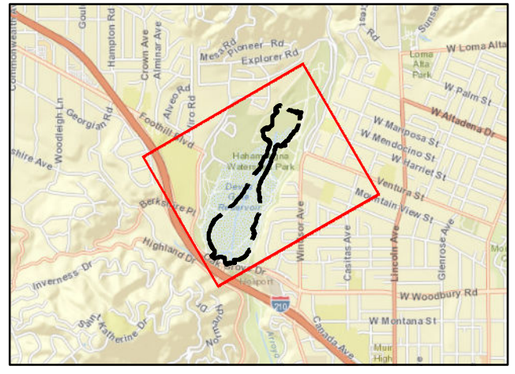
Excavation/Reservoir Configuration

Specific excavation limits and the Reservoir configuration for the Project are shown in Figure 1. As shown in Figure 1, the basin will be excavated to an elevation of approximately 985 feet at the face of the dam, sloping up to a 995-foot elevation where the basin narrows into one excavation branch. The branch, which is in the eastern portion of the Reservoir, slopes up to a 1,060-foot elevation at approximately 4,700 feet north of the dam. The final configuration will involve approximately 70.84 acres of the Reservoir. Additionally, this alternative will include removal of sediment stockpiled at Johnson Field as part of the Interim Management Plan (IMP).

Figure 1.
Sediment Removal Boundaries

Map Features

- Initial Project Footprint [1]
- Annual Maintenance Footprint [1]
- Temporary Impact Area [1]
- Permanent Impact Area [1]
- Access Roads[1]



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2014-003.008 Devil's Gate Sediment Removal Project

Scale in Feet
0 600

Photo Source: NAIP 2014
[1] LADPW

Map Date: 2/4/2016

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\aerial_maps\DG_Aerial_Impacts.mxd (MAG) mguidry 4/6/2016

Excavation will not involve the Oak Grove area of Hahamongna Park, the area of the Reservoir outside the permanent and temporary impact areas, or the City of Pasadena's spreading grounds on the east side of the basin.

Removal Method

In order to excavate sediment from the Reservoir, trees and vegetation growing within the project footprint, the temporary impact areas, and where haul roads are located will initially be removed. Large equipment will be used to remove the vegetation and to transport it to offsite disposal areas. A portion of the woody debris will be used in the habitat restoration areas located outside of the permanent maintenance area to provide structural refugia for wildlife species and plant seeds. A biologist will select the woody debris materials that will be used in the restoration sites and will supervise the placement of those materials. The initial removal of vegetation for the purposes of the sediment removal project will only occur within the boundaries of the permanent and temporary impact areas and the haul roads.

The accumulated sediment will be excavated from both the permanent and temporary impact areas using heavy construction equipment (Figure 1). Vegetation and organic debris will be separated from the sediment. Coarse material may need to be processed through sorters and crushers to be hauled offsite. Depending on the moisture content of the sediment removed, the sediment may need to be stockpiled to allow it to dry. If drying is required, stockpiling of the sediment will occur onsite within the excavation limits in Devil's Gate Reservoir. The trucks expected to be used for sediment transport are double dump trucks, which have an estimated capacity of 16 to 20 cy of sediment. The trucks are anticipated to haul an estimated 7,650 cy per day.

Sediment Disposal

Excavated sediment will be trucked to offsite disposal sites. The primary disposal facilities are all located in Irwindale and Azusa, east of the Project site. Secondary disposal facilities are located in Sun Valley, which is west of the Project site. Vegetation and organic debris that is removed from the Reservoir will be hauled to Scholl Canyon Landfill, which is located in the City of Glendale. The actual disposal facilities used for the project will be determined prior to project initiation.

Project Site Access and Staging

Trucks will enter the Reservoir via the upgraded reservoir access road located on the east side of the Reservoir (Figure 1). After rehabilitation and improvements to the existing west side reservoir access road, trucks will exit the Reservoir via this road. As part of the Proposed Project, the existing western access road and the upgraded eastern access road will be improved with new ramps to allow for truck traffic in and out of the Reservoir. The eastern access road will allow for traffic to enter the Reservoir directly from Oak Grove Drive as opposed to using La Cañada Verdugo Road. The existing western access road is currently unpaved and the portion of this access road from below the bike path to the Reservoir will be widened but will remain unpaved. The portion of this access road from Oak Grove Drive to the

West Rim Trail bike path will need to be widened and paved. The excavation equipment will be staged within the Reservoir for the duration of each year's sediment removal activities. Staging of sediment removal equipment will not take place on city streets. Specifics of the staging area(s) will be dictated by the contractor but will follow all applicable RWQCB requirements as noted in the EIR for the Project. Sediment hauling trucks will be queued within the Project site during removal activities and will be stored offsite nightly by their respective operators. Night security lighting will not be used in the Reservoir.

Project Schedule

The Project schedule is shown on Figure 2. Vegetation removal is scheduled to be completed in the fall of 2016 and the excavation of sediment will likely begin following the end of the 2016-2017 storm season, which is anticipated to be in April of 2017. Sediment removal will be conducted outside of the storm season in 2017 through 2022. During each of these years, the sediment removal activities will occur between April 15th and November 30th unless dry working conditions are not present. The duration of sediment removal in the Reservoir may be shorter than five years depending upon the rate of sediment removal and any additional sediment deposition in the Reservoir during the project.

Excavation and associated activities within the Reservoir area are expected to take place Monday through Friday (except on major holidays and major Rose Bowl events), as weather permits. The expected hours of work will be between 7:00 a.m. and 6:00 p.m. during Standard Time and between 7:00 a.m. and 7:00 p.m. during Daylight Savings Time on Mondays through Fridays. Hauling will occur between 7:00 a.m. and 3:30 p.m.

Annual Maintenance

The reservoir management phase of the Proposed Project is expected to start in 2022 or immediately after the completion of the sediment removal phase. The Proposed Project is expected to result in a reservoir configuration and access to facilitate future routine annual management and sediment removal. After the initial proposed sediment removal activities, the Reservoir will be managed through vegetation maintenance, sediment excavation/trucking offsite, and Flow-Assisted Sediment Transport (FAST).

The 52.59-acre permanent maintenance area is shown on Figure 1. The access roads into the permanent maintenance area will be maintained throughout the duration of the Project to provide proper road width for access.

Maintenance activities will be conducted on an annual basis to reduce the buildup of sediment in the permanent maintenance area and to eliminate or substantially reduce the need for another large-scale sediment removal project in the future. Reservoir management activities will be conducted during the same working days and hours as the sediment removal phase.

Figure 2. Project Schedule for the Devil's Gate Reservoir Sediment Removal and Management Project

SEDIMENT REMOVAL ACTIVITIES	2016				2017												2018 - 2021											
2016-2021	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Initial Vegetation Removal	x	x	x	x	x	x																						
Estimated Start Date: Sep 27, 2016																												
Sediment Removal								x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	
Outside storm season																												

HABITAT RESTORATION ACTIVITIES	2016 - 2021											
2016-2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Invasive and Nonnative Plant Removal/Maintenance	x	x	x	x	x	x	x	x	x	x	x	x
May take longer than 5 years; performed annually as-needed												
Planting and Seeding	x	x	x							x	x	x
Only during winter rainy season												

ANNUAL MAINTENANCE ACTIVITIES	2022 - 2036											
2022-2036	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Undesirable Plant Control	x	x	x	x	x	x	x	x	x	x	x	x
As-needed												
Annual Vegetation Maintenance								x	x	x	x	
Approximately 3 weeks in late summer/fall												
FAST Operations	x	x	x	x						x	x	x
Only during winter storm season												
Sediment Excavation/Trucking Offsite								x	x	x	x	x
Minor grading to direct flows; approximately 12 weeks in late summer and fall												

Undesirable Plant Control

As part of the project, the vegetation in the permanent maintenance area may be allowed to grow between annual maintenance events. Infestations of invasive plants, nonnative plants, and weeds will be controlled in the permanent maintenance area. Invasive plants of particular concern are perennial pepper weed, giant reed, salt cedar, Spanish broom, pampas grass, and fountain grass. When encountered in the permanent maintenance area, each species will be managed according to the best control method for that particular species.

In addition to the control of invasive nonnative plants, other nonnative annual and perennial plants and weeds will also be controlled in the permanent maintenance area. Hand tools, string-trimmers, and/or herbicide will be used and the goal will be to eliminate weed seedlings before they mature. If flowering parts are present, then the flowering portions will be removed. All cut material will be collected, bagged, removed from the site, and taken to an approved off-site location for disposal.

Herbicides and associated surfactants used to control invasive, nonnative plants, and weeds located adjacent to open water will be limited to those registered for aquatic use and approved for use in wetland restoration projects by the regulatory agencies. It is anticipated that an aquatic-approved form of glyphosate (e.g., Aquamaster®) will be used in areas adjacent to open water and chlorsulfuron (e.g., Telar®) will likely be used in all other areas. However, because the project will continue for the long-term, the most up-to-date information will be reviewed regarding approved herbicides and the most effective herbicides for treating the target plants in the permanent maintenance area. A blue marking dye will be added to all herbicides to allow for the identification of sprayed areas.

The control of undesirable plants in the permanent maintenance area will be conducted as necessary with some periods of removal likely occurring during the breeding season. Undesirable plant removal activities will only be conducted Mondays through Fridays during the same work hours as mentioned previously for annual sediment removal. The avoidance and minimization measures designed to reduce or eliminate impacts to sensitive species and nesting birds will be implemented during the periods when the removal or treatment of undesirable plants is implemented. These measures will include, but not be limited to, pre-construction surveys and biological monitoring during removal activities, as necessary.

Annual Vegetation Maintenance

Vegetation within the permanent maintenance area of the Reservoir will be mowed or grubbed and removed on an annual basis. The anticipated duration and timing of the annual vegetation management activities is approximately three weeks during the late summer or early fall. This will allow vegetation to naturally re-establish in the permanent maintenance area between maintenance periods. The re-established vegetation in the permanent maintenance area will provide foraging and cover opportunities for birds and other wildlife species. Vegetation mowing and removal activities will only be conducted during the same workdays/hours as mentioned previously for annual sediment removal. Mowing or removal of vegetation associated with annual maintenance will only occur within the boundary of the permanent maintenance area.

Flow-Assisted Sediment Transport (FAST) Operations

FAST operation will be conducted for the Devil's Gate Dam. During FAST operations, reservoir inflows from rain events will naturally pass sediment through the Reservoir to areas downstream of the dam in the Arroyo Seco. FAST operations will only occur during the winter storm season and will not require mechanical agitation or assistance. FAST operations will reduce sediment accumulation in the Reservoir and help maintain flood control capacity. The amount of sediment that is transported through FAST operations is limited to smaller grain size materials as they are more easily moved by storm runoff.

Sediment Excavation/Trucking Offsite

Minor grading at the upstream end of the permanent maintenance area will be performed annually to direct flows into the main channel to keep sediment moving towards and through the dam. Depending on the efficiency of the FAST operations, some mechanical excavation and trucking offsite will also be required to remove accumulated sediment. Sediment excavation and trucking to offsite location during reservoir management will use the same methods and trucking routes as the initial sediment removal activities. The accumulated sediment will be excavated with mechanical construction equipment. Vegetation and organic debris will be separated from the sediment. The need for future sediment removal will depend on future storm activity and associated sediment accumulation.

Based on the history of past storm events, the amount of sediment that may need to be removed from the permanent maintenance area on an annual basis is estimated at approximately 13,000 cy. The period of time required to remove this amount of sediment is approximately two weeks. Sediment removal will be conducted in the late summer or early fall after the vegetation that has regrown in the permanent maintenance area is removed.

Moderately large sediment deposits have the potential to occur during an intense storm season or following a significant wildfire within the watershed. However, these events are expected to occur on an infrequent basis. If an event occurs that results in the deposition of a moderately large sediment deposit, LACFCD anticipates that the sediment can be removed within approximately 12 weeks during the late summer and fall.

Dam Operations

The Devil's Gate Dam outlet works consist of a spillway, slide gates, and a valve. Flow through the spillway occurs at elevation 1,040.5 feet. The valve and gate summary for the dam is as follows:

1. 18-inch hollow cone
2. 7- by 10-foot slide gate
3. 7- by 10-foot slide gate
4. 5- by 5-foot slide gate

The dam operations are dependent on the forecasted and existing rainfall/inflows, watershed conditions including expected sediment inflows, and dam and downstream conditions. The following is a description of general operating parameters. During smaller rain events at the beginning of the storm season, all water passes downstream through the dam. When the

Reservoir is rising during larger storm events, the gate is closed and water is ponded behind the dam to create a pool that prevents sediment and debris from damaging or blocking the valves and gates of the dam. Depending on storm conditions and forecasts, the pool may remain throughout the storm season. The slide gates are used to control outflow and to prevent large magnitude flows from overwhelming the downstream channel. During significant storm events, the Reservoir rises even with the valves releasing flow. If the water reaches the spillway elevation, then all gates are closed and reservoir outflows pass through the spillway. Because there are no mechanical controls on the spillway flow, this is called "uncontrolled" outflow and the flow is dependent on the amount of runoff into the Reservoir.

As inflow decreases and the reservoir level falls, the gates will be utilized to draw down the Reservoir below the spillway. This brings the outflow back into "controlled" release and the Reservoir continues to be lowered at an acceptable rate based on rain events, forecasts, and conditions at the Reservoir including potential need to remove floating debris captured in the debris booms.

Avoidance and Minimization Measures

Section 8 of this ITP application provides the details on the avoidance and minimization measures that will be implemented to protect the listed species that occur or potentially occur during the Project activities. Measures have been incorporated from the EIR, from recommendations provided by the resources agencies, and from the Mitigation Plan for the Project. Numerous mitigation measures are included in the EIR that address minimizing and avoiding impacts to sensitive biological resources during the construction and maintenance phases of the Project. The mitigation measures include the following:

- Biological monitoring during construction
- Worker education
- Pre-construction surveys for sensitive species
- Nesting bird surveys and the establishment of nest buffers
- Pre-construction surveys for bats
- Restoration of Riversidean alluvial fan sage scrub
- Pre-construction tree survey
- Habitat restoration, enhancement, and exotic plant removal to satisfy Section 401, Section 404, and Streambed Alteration Agreement conditions

In addition, protection measures were suggested during Informal Consultation between the U.S. Army Corps of Engineers (USACE) and USFWS. These measures, which provide more detailed recommendations related to avoiding and minimizing impacts to federally and state-listed species, include:

- An increased frequency of nesting bird surveys and protection measures if least Bell's vireos are detected
- Establishment of a 300-foot buffer around active nests
- Implementation of the above measures during the annual maintenance activities if they occur during the breeding season

Finally, several protection measures have been included in this ITP application to further avoid and/or minimize potential impacts to state-listed birds and their habitat. These include:

- Trail closures within suitable habitat
- Public education
- Periodic trash removal

Habitat Restoration Activities

Invasive and Nonnative Plant Removal and Maintenance

Perennial pepper weed and poison hemlock infestations are widespread throughout the proposed mitigation areas within the Reservoir. Infestation densities within the Project area range from near monospecific stands of perennial pepper weed and poison hemlock to trace (less than 1%) amounts in other areas. Control methodology within the Project area will be dependent on the level of the infestation and its proximity to native vegetation, sensitive resources, and open water. Control of perennial pepper weed in highly infested areas may take more than five years to achieve full control of the infestations.

Many areas are heavily infested with perennial pepper weed at levels greater than 50% cover and these areas typically include other exotics at lower levels such as poison hemlock, mustards, and wild radish interspersed with native vegetation. Control of perennial pepper weed in these areas will require an integrated management approach consisting of mechanical removal via mowing and hand removal, multiple years of herbicide applications, and revegetation with native riparian plant species. Soil management may also be required in these areas due to the potential of high concentrations of extract salts being deposited on the soil surface by this species.

Initial control activities for perennial pepper weed and other nonnative species in the highly infested areas may require large-scale mowing and hand removal of plants. The removal of trash, debris, and multiple years of accumulation of dead thatch will be conducted in areas where perennial pepper weed and other nonnative plants and weeds are dominant. These activities will be conducted after the breeding season for least Bell's vireo has concluded. In order to minimize soil compaction, rubber-tired vehicles (i.e., tractors, front-end loaders) with mowing attachments will perform the bulk of the biomass removal. Hand removal or string-trimmers will be employed in those areas adjacent to sensitive resources, open water, or native vegetation. All vehicles used in these areas will be cleaned of any dirt or plant material prior to leaving the Project area to avoid spreading any weed seed.

Following mechanical removal activities, re-sprouting perennial pepper weed plants will be foliarly treated with an herbicide at or just prior to the bolting or flower bud stage. Herbicides and associated surfactants used for these activities will be the same as previously described for the undesirable plant removal in the permanent maintenance area.

For those areas where perennial pepper weed patches and other undesirable plants are interspersed with native vegetation, control will require a combination of hand removal and spot treatments with approved herbicides. Hand tools, string-trimmers, and/or herbicide will be used to achieve this task. The goal is to eliminate weed seedlings before they mature. If flowering parts are present, all cut material will be collected, bagged, removed from the site, and taken to

an approved off-site location for disposal. Since these species typically germinate concurrently with nesting bird season, the avoidance and minimization measures will be implemented (pre-construction surveys, biological monitoring, and nest buffers) to avoid impacts to listed species and nesting birds. Maintenance activities will occur periodically throughout the year to target the undesirable plant species.

Planting and Seeding

Riparian scrub (mulefat thickets) and riparian woodland are the primary vegetation communities targeted for native planting and seeding activities. The planting palette for the riparian scrub and woodland habitats include perennial native species such as mulefat, black willow, red willow, arroyo willow, Mexican elderberry, and cottonwood. The seeding palette includes species such as mugwort, western ragweed, and beardless wild rye.

Willow and mulefat cuttings/stakes will provide a large percentage of the plant material used in the restoration sites. Suitable local donor sites for the cuttings/stakes will be identified within Devil's Gate Reservoir. Container plants will be installed in areas that have been identified as being appropriate and accessible for watering. Planting of cuttings/stakes and container plants will likely occur during the winter rainy season (between October 1 and April 30). Native seed mixes will be installed using appropriate methods such as hydroseeding, imprinting, and/or hand broadcasting. Seed will be installed between October 1 and April 30 in order take advantage of natural rainfall.

Other Permits

The Project will require other environmental permits in addition to a Section 2081 permit, applicable to biological resources as follows:

- Section 404 of the Clean Water Act
  - U.S. Army Corps of Engineers, Los Angeles District, Regulatory Branch 915 Wilshire Blvd, 11th Floor Los Angeles, CA 90017 Contact: Bonnie Rogers

- Section 401 of the Clean Water Act
  - State Water Resources Control Board, Los Angeles Region 320 West Fourth Street, Suite 200 Los Angeles, CA Contact: Valerie Carillo Zara

- Streambed Alteration Agreement under Section 1602 of California Fish and Game Code
  - California Department of Fish and Wildlife, Central Region 1234 East Shaw Avenue Fresno, CA 93710 Contact: Erinn Wilson

(4) Project Location (CCR § 783.2(a)(4))

The Project is located in the City of Pasadena (City) in Los Angeles County (County) (Figure 3). More specifically, the Project is located within the upper portion of the Arroyo Seco Watershed within the City's Hahamongna Watershed Park (Figure 4). Downtown Los Angeles is approximately 14 miles to the south of the Project site, the San Gabriel Mountains are located just north of the Project site, and the City of La Cañada Flintridge and the unincorporated community of Altadena are located to the west and east, respectively. The Arroyo Seco Watershed extends approximately 24 miles along the Arroyo Seco from its origin in the Angeles National Forest to the confluence with the Los Angeles River. The portion of the watershed that drains into Devil's Gate Reservoir includes approximately 20,416 acres (31.9 square miles) of both residential and undeveloped land.

The Proposed Project includes transportation and placement of sediment at facilities already prepared and designated to accept such sediment. The primary disposal facilities are located in Irwindale and Azusa, east of the Project site. Secondary disposal facilities are located in Sun Valley, which is west of the Project site. Vegetation and organic debris that is removed from the Reservoir will be hauled to Scholl Canyon Landfill, which is located in the City of Glendale. The actual disposal facilities used for the project will be determined prior to project initiation.

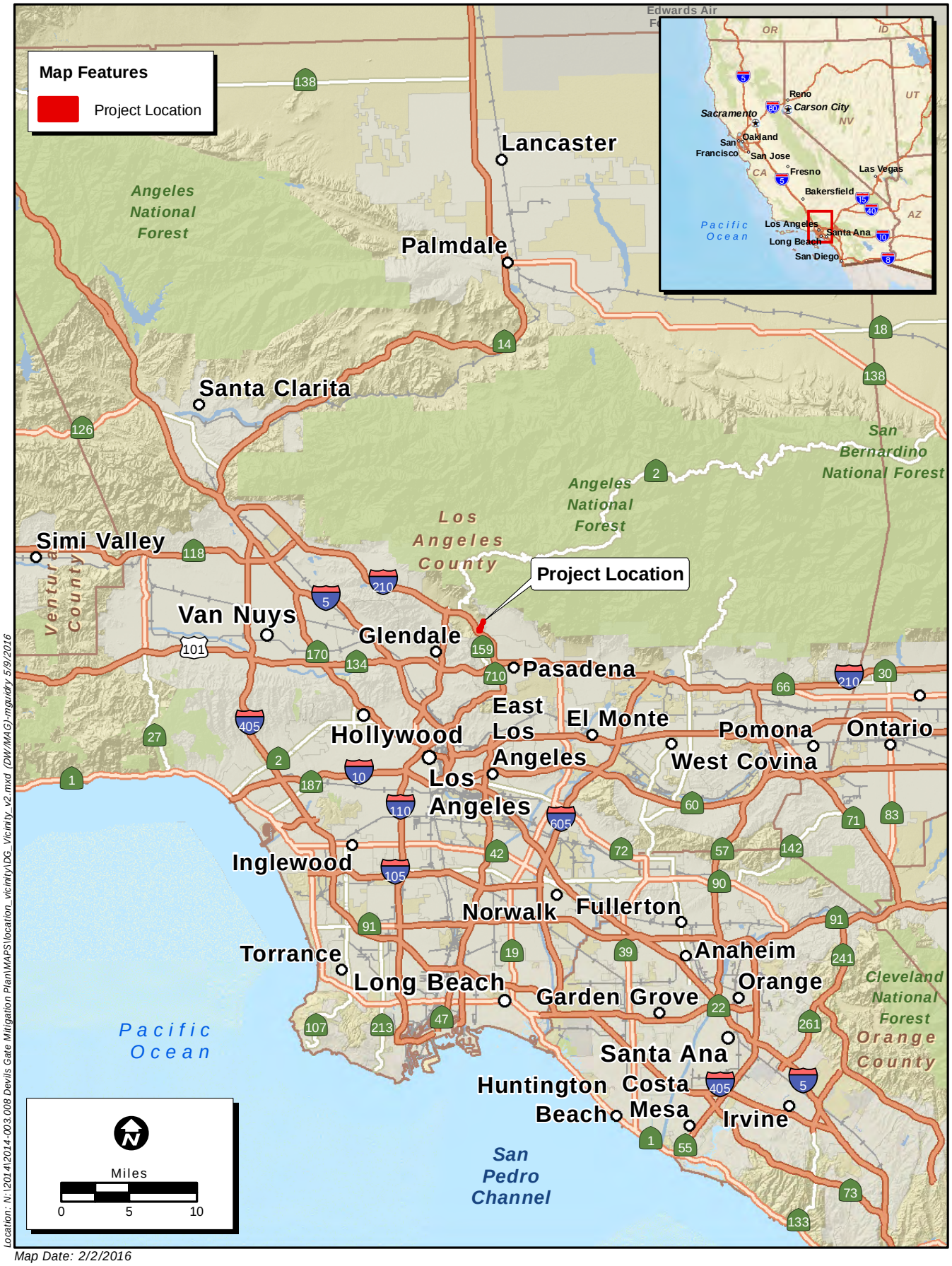
The topography in the vicinity of the Proposed Project site is generally flat, with a slight incline to the north. The San Gabriel Mountains are located to the north of the Proposed Project site and are characterized by both the foothills and steep slopes associated with mountainous terrain. The Proposed Project site can currently be accessed via a park entrance at Oak Grove Drive and Foothill Boulevard on the west, Windsor Avenue via La Cañada Verdugo Road on the southeast, and Explorer Road on the northeast.

General Plan Designation/Zoning

The Proposed Project site has a General Plan Land Use designation of Open Space and is zoned as Open Space under the City of Pasadena General Plan (City of Pasadena 2004).

LACFCD Devil's Gate Dam and Reservoir Easement

Through easements granted in May of 1919 and March of 1965, the City of Pasadena granted the LACFCD, under a perpetual easement, the right to construct, reconstruct, inspect, maintain, repair, and operate Devil's Gate Dam, its spillway, Reservoir, bypasses, tunnels, and other support facilities as may be necessary for the construction and maintenance of a reservoir capable of impounding the waters of the Arroyo Seco for purposes of storage and control, and to control such waters as may be necessary in the prevention of damage by flood (City of Pasadena 1919/1965). The boundary of the flood control easements is shown on Figure 5.



Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\location_vicinity\DG_Vicinity_v2.mxd (DW/MAG)-mguidry 5/9/2016

Map Date: 2/2/2016

Service Layer Credits: Sources: USGS, ESRI, TANA, AND

Figure 3. Project Vicinity

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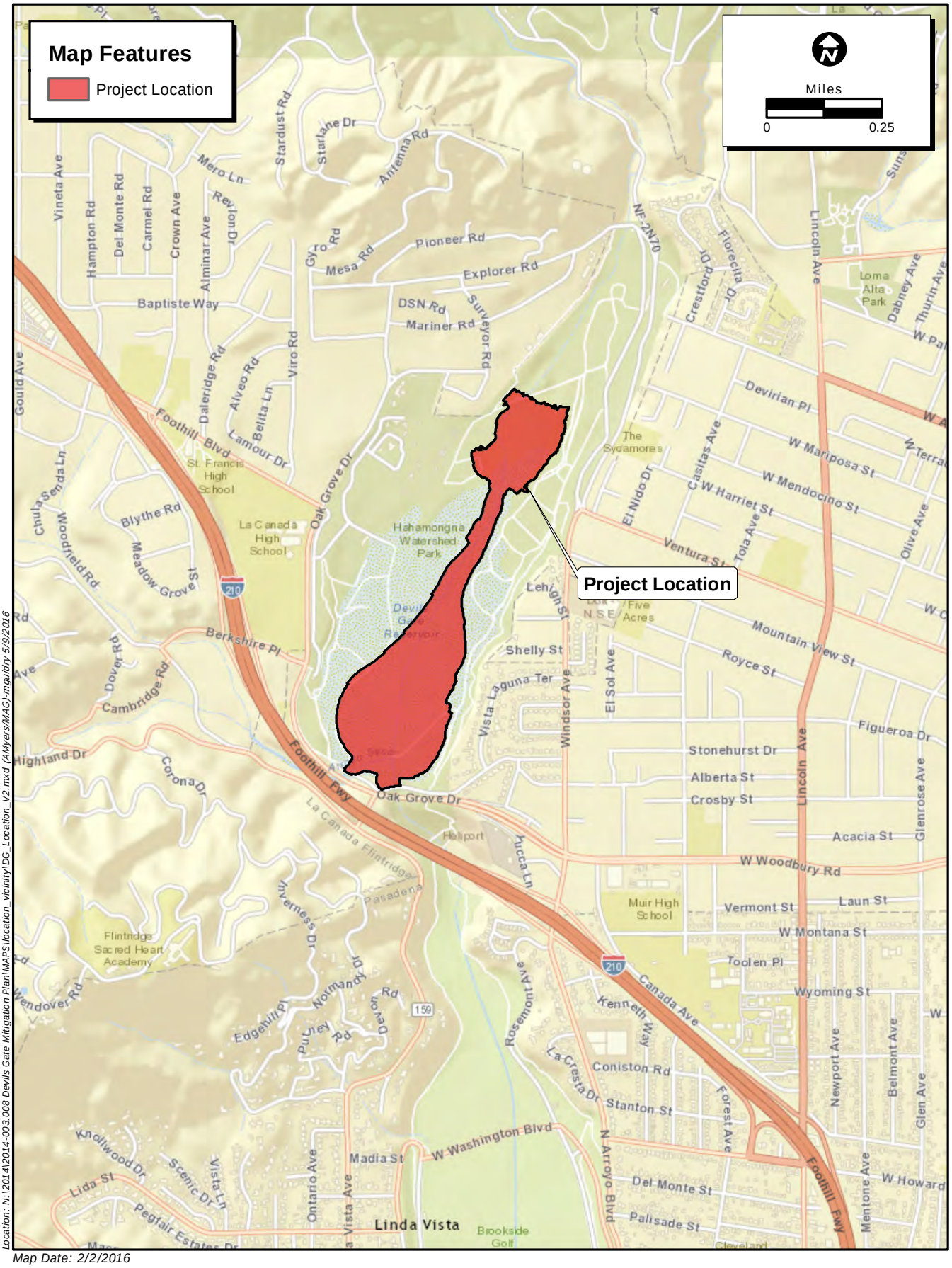

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\location_vicinity\DG_Location_V2.mxd (AMyers/MAG)-mguidry 5/9/2016

Map Date: 2/2/2016
Source: ESRI

Figure 4. Project Location

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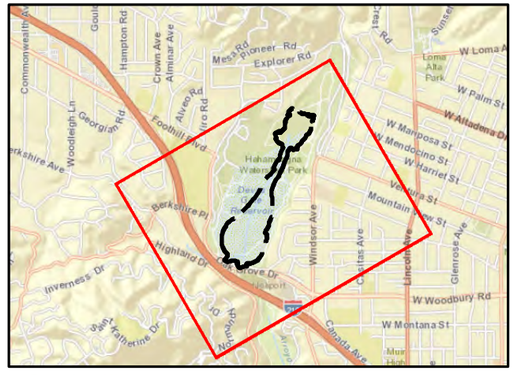
Figure 5.
Flood Control Easement Boundaries

Map Features [1]

- Initial Project Footprint
- Annual Maintenance Footprint
- Temporary Impact Area
- Permanent Impact Area
- Flood Control Easement
- Access Roads[1]



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Scale in Feet
0 700

Photo Source: NAIP 2014
[1] LADPW

Map Date: 2/4/2016

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\aerial_maps\DG_Aerial_Easement.mxd (MAG)-mguidry 5/9/2016

Hahamongna Watershed Park Master Plan

In 1993, the City of Pasadena established Hahamongna Watershed Park, which includes Devil's Gate Reservoir. Hahamongna Watershed Park is owned and operated by the City of Pasadena and includes the Oak Grove area of Hahamongna Watershed Park. Recreational uses in the park include hiking, bicycling, horseback riding, soccer, baseball, softball, picnics, and disc golf. Between 2003 and 2005, the City of Pasadena developed and adopted three separate master plans that govern Pasadena parks along the Arroyo Seco: the Lower Arroyo Master Plan, the Central Arroyo Master Plan, and the Hahamongna Watershed Park Master Plan (HWPMP). The HWPMP is a land use plan for approximately 300 acres of Hahamongna Watershed Park, which in total encompasses approximately 1,300 acres of open space that extends northward from Devil's Gate Dam into the Arroyo Seco Canyon. Devil's Gate Dam and Reservoir is within the HWPMP area. The HWPMP establishes a visionary framework for recreation, water resources, flood management, habitat restoration, and cultural resources in Hahamongna Watershed Park (HWPMP 2003).

Surrounding Land Uses

Hahamongna Watershed Park is approximately 300 acres of parkland and open space located at the base of Arroyo Seco Canyon, in the floodplain behind Devil's Gate Dam and includes the Oak Grove area of Hahamongna Watershed Park. The Oak Grove area of Hahamongna Watershed Park, located west of the Proposed Project site, contains picnic facilities, restrooms, a play field, an equestrian staging area, trails, and a disc golf course. The current leaseholders within Hahamongna Watershed Park include the Los Angeles County Fire Department (Fire Camp 2) and the Rose Bowl Riders, who sublet to the Tom Sawyer Camp and MACH 1 (Move a Child Higher). In addition to the LACFCD, Southern California Edison, Southern California Gas Company, and Pasadena Water and Power hold easements within Hahamongna Watershed Park. Other land uses directly adjacent to the Proposed Project area include the California Institute of Technology – Jet Propulsion Laboratory (JPL) to the northwest and east; La Cañada High School and Hillside School and Learning Center to the west; single-family residential uses to the south, north, and east; and the 210 Foothill Freeway (I-210) to the south.

(5) Potential for Take (CCR § 783.2(a)(5))

CESA defines "Take" as hunting, pursuing, catching, capturing, or killing an individual of a listed species, or to attempt any such act. California Fish & Game Code § 86. "Incidental Take" is take that is incidental to otherwise lawful activities.

This section discusses whether the Project could result in direct or indirect take of two pairs of least Bell's vireos or non-nesting southwestern willow flycatchers that were identified as potentially occurring in the Project area. Disturbances associated with the Project will generally occur in riparian habitats as a result of vegetation removal, sediment removal, operation of mechanized equipment, noise, and increased human activity.

Direct Take

Vegetation removal activities will be conducted during the initial clearing of vegetation within the project footprint. This initial removal of vegetation associated with the sediment removal project will impact a portion (0.80 acre or 25 percent) of a potential territory (3.11 acres total)

of one pair of least Bell's vireos observed in 2015. A second potentially occupied least Bell's vireo territory (approximately 6.47 acres in size) will not be directly affected by the initial vegetation removal. The removal of the 0.80 acre of a potentially occupied territory equates to a loss of approximately 8 percent of the total areas (9.58 acres) presumed to be occupied by least Bell's vireos in 2015. Direct take of individuals could potentially occur if the initial vegetation removal is conducted during the breeding season. However, the initial vegetation removal will be conducted during the non-breeding season (Fall/Winter 2016) so this phase of the project will not result in direct take of least Bell's vireos or their nests or non-nesting southwestern willow flycatchers.

An initial removal of invasive and nonnative plants will be conducted in the mitigation areas. This activity will not result in direct take of least Bell's vireos or their nests or non-breeding southwestern willow flycatchers because this activity will be completed in the non-breeding season (Fall/Winter 2016) and will not remove suitable habitat for these species.

Recontouring of, and sediment removal from the old mining pit, re-establishment of drainages in the western portion of the Reservoir, and contouring of the western and southern sides of Johnson Field for mitigation purposes will temporarily alter existing riparian scrub/woodland habitat. The areas where the re-establishment of the drainages in the western portion of the Reservoir will occur are located within the potential territory of one pair of least Bell's vireos observed in 2015. Approximately 0.50 acre (7.73 percent) of riparian scrub/woodland within the potential territory (6.47 acres) will be affected by the habitat restoration activities. Disturbance of this habitat during the breeding season could potentially result in direct take of least Bell's vireos or nests if the activities are conducted during the breeding season. Since these activities will be conducted during the non-breeding season, they will not result in direct take of individuals of least Bell's vireos or their nests. Following the completion of the earthwork in these areas, the riparian scrub/woodland will be replanted in these areas.

Maintenance activities associated with the habitat restoration in the mitigation areas will include removal of nonnative and invasive plants and weeds during the breeding and non-breeding seasons. The methods employed to do the maintenance will include using string-trimmers, backpack sprayers, and hand tools and only nonnative and invasive plants will be removed. In addition, maintenance of irrigation systems and replacement planting may also be conducted during the breeding and non-breeding seasons. These activities are not expected to result in direct take of nests or individuals of least Bell's vireos because avoidance and minimization measures (pre-construction surveys and nest monitoring) will be implemented to ensure that the activities do not occur in areas when active nests are present.

Indirect Take

Indirect take may result from noise associated with the operation of construction equipment during the sediment removal phase of the project if these activities are conducted during the breeding season. The initial sediment removal phase of the project will take approximately 3 to 5 years to complete and the activities will be conducted between April 15 and November 30 pending dry working conditions. Therefore, during each year when the initial sediment removal occurs, indirect take of nesting least Bell's vireos as a result of noise may occur from April 15 through July 31, the season when most vireos complete their nesting cycles. Early in the breeding season, the noise associated with the construction activities may result in indirect take

of nesting least Bell's vireos if nests are established near the construction activities and the birds subsequently abandon their nests. Avoidance and minimization measures will be implemented to determine where vireos are nesting and buffers will be established to reduce the likelihood of indirect take of nesting vireos. Vireos may continue stay on the breeding grounds into September before departing for their wintering grounds. After July 31, noise is not expected to result in indirect take of non-nesting or migrating Least Bell's vireos and non-nesting southwestern willow flycatchers because these species are highly mobile, they can move throughout the habitats adjacent to where sediment removal is taking place, and they are not restricted to occupying nesting territories.

Indirect take of nesting least Bell's vireos may result from the presence of humans conducting habitat restoration maintenance activities in the riparian mitigation areas during the breeding season. The presence of humans may cause nesting least Bell's vireos to temporarily leave or abandon nests. Landscape crews will be using string-trimmers, backpack sprayers, and hand tools on a periodic basis throughout the first five years of the habitat restoration. This will be done to remove nonnative and invasive plants and weeds from sites where container plants and/or seed have been installed or in existing riparian habitat areas where the spread of invasive and nonnative plants and weeds will be controlled. In addition, these activities may continue past five years if there continues to be problems with the spread of nonnative and invasive plants and weeds. Landscape crews will also be providing irrigation to plantings on a periodic basis throughout the first three to five years of the project, as necessary. Irrigation may be provided through a temporary irrigation system or through a hose hooked up to a water truck. Avoidance and minimization measures, including nest monitoring and establishment of buffers, will be implemented to ensure that the maintenance and irrigation activities do not result in indirect take.

The activities described above could potentially result in take, as all of the activities could have the potential to disturb individuals and/or habitat features. Mitigation measures to avoid take, or to fully mitigate when avoidance is not possible, are discussed in Section 8.

Project Impacts to Vegetation Communities

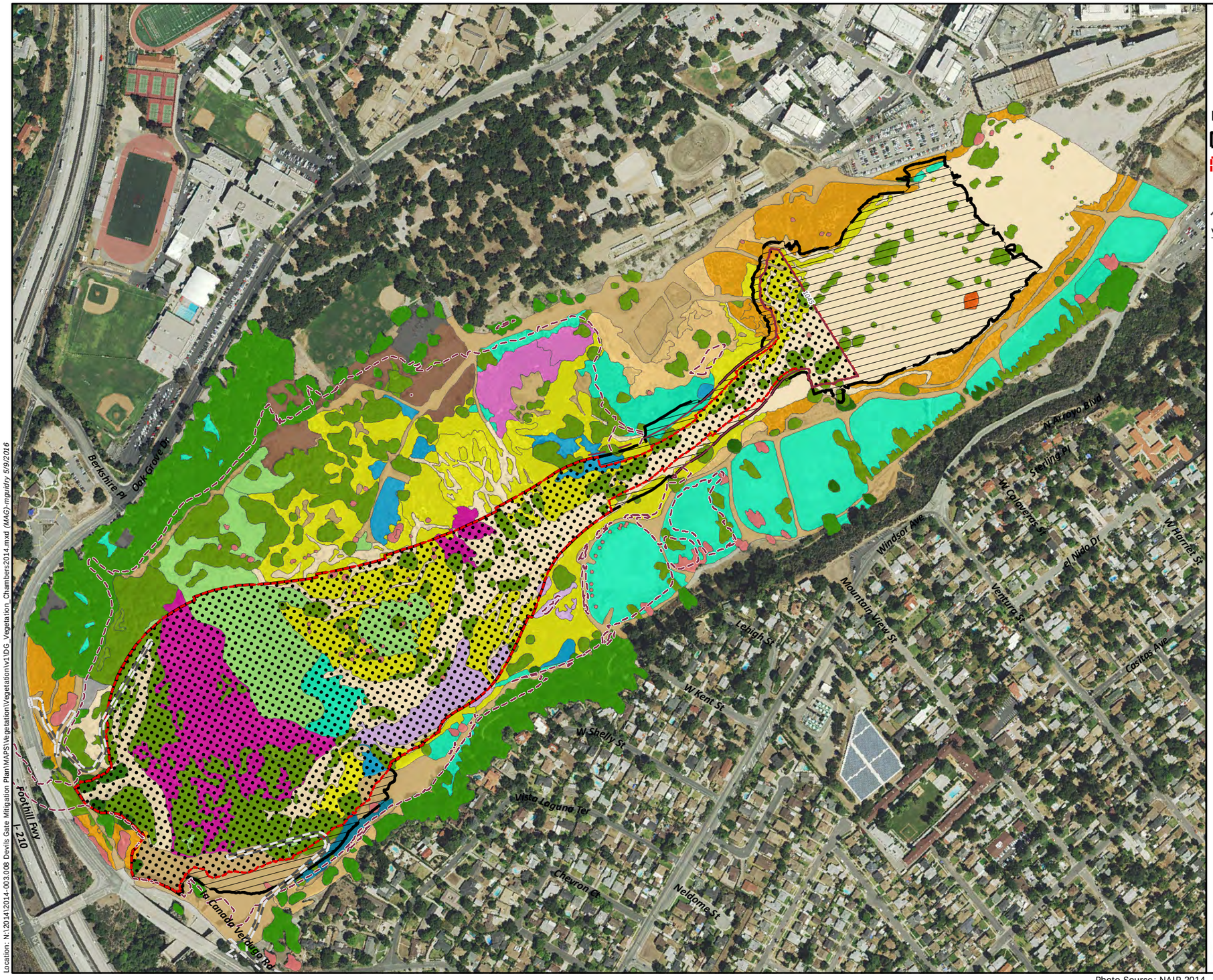
For the purpose of this permit application, Project impacts were determined based on the impacts for the footprint of the approved Alternative 3, Configuration D, Option 2, which was identified as the Environmentally Superior Alternative in the Final EIR. Vegetation removal and ground-disturbing activities, including sediment removal and haul road improvements, would occur in the Project area. Some of the vegetation removal and ground disturbance would be temporary and restoration will occur in these areas once the initial sediment removal phase of the project is complete. Figure 6 shows the 2014 vegetation map prepared by Chambers Group with the boundaries of the permanent and temporary impact areas. Table 1 lists the total, permanent, and temporary impacts of the sediment removal project to the vegetation communities that were mapped in 2014. Project activities will impact a total of approximately 70.84 acres during sediment and vegetation removal, which includes permanent impacts to 52.59 acres and temporary impacts to 18.25 acres.

Table 1. Total Project Impacts to CDFW Jurisdictional Areas

Vegetation Community	Total Impacts	Permanent Impacts	Temporary Impacts
RIPARIAN			
Riparian Woodland (Black Willow Series)	13.41	11.73	1.68
Early Successional Riparian Woodland (Black Willow/Mulefat Association 3-10 years)	0.00	0.00	0.00
Mulefat Thickets	9.86	8.49	1.37
Disturbed Mulefat Thickets	0.27	0.01	0.26
Coyote Brush – Mulefat Association	0.00	0.00	0.00
Total Riparian	**23.54**	**20.23**	**3.31**
NON-RIPARIAN IN RIPARIAN ZONE			
Riparian Herbaceous (Cocklebur-Ragweed Patches)	6.21	6.21	0.00
Annual Bur-Sage and Mustard Patch with an Abundance of Dead Wood (Transitional from Disturbed Black Willow Series)	8.12	8.12	0.00
Total Non-Riparian in Riparian Zone	**14.33**	**14.33**	**0.00**
UPLAND			
California Sagebrush – California Buckwheat Scrub	0.64	0.16	0.48
Disturbed California Sagebrush – California Buckwheat Scrub (>25% Nonnative Cover)	0.05	0.00	0.05
Riversidean Alluvial Fan Sage Scrub	0.10	0.00	0.10
Coast Live Oak Woodland	0.03	0.02	0.01
Coast Live Oak Woodland - Disturbed	0.40	0.38	0.02
Total Upland	**1.22**	**0.56**	**0.66**
OTHER			
Mustard and Annual Brome Semi-Natural Herbaceous Stand	1.70	1.25	0.45
Escaped Cultivars	0.28	0.23	0.05
Disturbed (Barren/Trails)	3.20	1.80	1.40
Scoured	23.97	11.70	12.27
Poison Hemlock Patches (Semi-Natural Stands)	2.11	2.11	0.00
Perennial Pepper Weed Patches (Semi-Natural Stands)	0.49	0.38	0.11
Developed (Structures, Paved Roads)	0.00	0.00	0.00
Total Other	**31.75**	**17.47**	**14.28**
TOTAL IMPACTS	**70.84**	**52.59**	**18.25**

(Source: Chambers Group 2014 Vegetation Map)

Figure 6.
Permanent and Temporary Impacts to Vegetation Communities (2014)



Map Features

- Initial Project Footprint [1]
- Annual Maintenance Footprint [1]
- Access Roads [1]
- Proposed Contours [1]
- Temporary Impact Area [1]
- Permanent Impact Area [1]
- Existing Contours [1]

Vegetation Community [2]

- Annual Bur-Sage and Mustard Patch
- Riversidean Alluvial Fan Sage Scrub
- Disturbed/Barren
- Disturbed/Barren
- Coyote Brush - Mulefat Association
- Coast Live Oak Woodland
- Coast Live Oak Woodland-Disturbed
- Developed
- Disturbed Mulefat Thickets
- Escaped Cultivars
- Early Successional Riparian Woodland
- Mustard and Annual Brome Semi-Natural Herbaceous Stand
- Mulefat Thickets
- Poison Hemlock Patches
- Perennial Pepper Weed Patches
- Riparian Herbaceous
- Riparian Woodland
- California Sagebrush - California Buckwheat Scrub
- Disturbed California Sagebrush - California Buckwheat Scrub
- Scoured

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2014-003.008 Devil's Gate Sediment Removal Project

Scale in Feet
0 600

Photo Source: NAIP 2014
[1] LADPW
[2] Chambers Group

Map Date: 4/5/2016

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\Vegetation\Vegetation\v1\DG_Vegetation_Chambers2014.mxd (MAG)-mguidry 5/9/2016

Degradation of Vegetation Communities

Chambers Group's 2014 vegetation mapping was conducted during the winter season when many of the dominant annual native and nonnative plant species in the understory could not be detected. During the spring of 2015, ECORP collected additional plant community information in the areas located outside of the permanent maintenance area boundary for the purpose of looking for areas where habitat restoration activities could be implemented. ECORP identified a much broader infestation of annual invasive plant species than was previously mapped. Specifically, perennial pepper weed was found to be much more common throughout the area than what was depicted on the Chambers Group 2014 map. The perennial pepper weed had spread throughout much of the understory of the riparian woodlands and it also occupied large monotypic patches where it replaced or out-competed the native and other nonnative plant species. For example, approximately 5 acres of areas located outside of the permanent maintenance areas that were previously mapped as other vegetation communities in late 2014 were remapped as monotypic pepper weed patches in the spring of 2015 (Table 2). Additional nonnative weedy and invasive plants that were also observed throughout much of the area during the spring of 2015 included poison hemlock, mustards, wild radish, and Italian thistle.

The presence of the expansive distribution of perennial pepper weed and the additional nonnative and invasive plant species observed in the areas outside of the permanent maintenance area in the spring of 2015 provides an indication that there has also likely been a degradation of the habitat within the permanent maintenance area and temporary impact areas. In this case, the permanent and temporary impacts listed in Table 2 are likely not correct and should be modified based on vegetation mapping conducted in the spring of 2016. Remapping the vegetation communities in the spring of 2016 to reflect current conditions will provide a much more accurate analysis of the permanent and temporary impacts of the project on the vegetation communities and to potential habitat for listed species. The results of the May 2016 vegetation mapping will be provided to CDFW when it becomes available.

Table 2. 2014 Vegetation Communities Outside of Permanent Maintenance Area Degraded to Monotypic Perennial Pepper Weed in 2015

Vegetation Community	Perennial Pepper Weed (2015)
RIPARIAN	
Riparian Woodland (Black Willow Series)	0.47
Early Successional Riparian Woodland (Black Willow/Mulefat Association 3-10 years)	0.00
Mulefat Thickets	1.31
Disturbed Mulefat Thickets	0.00
Coyote Brush – Mulefat Association	0.00
Total Riparian	**1.78**
NON-RIPARIAN IN RIPARIAN ZONE	
Riparian Herbaceous (Cocklebur-Ragweed Patches)	1.59
Annual Bur-Sage and Mustard Patch with an Abundance of Dead Wood (Transitional from Disturbed Black Willow Series)	0.01
Total Non-Riparian in Riparian Zone	**1.60**
UPLAND	
California Sagebrush – California Buckwheat Scrub	0.00
Disturbed California Sagebrush – California Buckwheat Scrub (>25% Nonnative Cover)	0.03
Riversidean Alluvial Fan Sage Scrub	0.00
Coast Live Oak Woodland	0.00
Coast Live Oak Woodland - Disturbed	0.00
Total Upland	**0.03**
OTHER	
Mustard and Annual Brome Semi-Natural Herbaceous Stand	0.82
Escaped Cultivars	0.10
Disturbed (Barren/Trails)	0.41
Scoured	0.27
Poison Hemlock Patches (Semi-Natural Stands)	0.00
Perennial Pepper Weed Patches (Semi-Natural Stands)	0.58
Developed (Structures, Paved Roads)	0.00
Total Other	**2.18**
TOTAL IMPACTS	**5.59**

Habitat Restoration Impacts

Habitat restoration activities will be conducted to remove nonnative and invasive plants and weeds and to restore or revegetate additional suitable habitat for listed species and to improve the function of the existing habitats located outside of the permanent maintenance area. The habitat restoration areas and activities will include:

- Creation of approximately 3.44 acres of willow riparian woodland/scrub in Johnson Field where it does not currently exist;
- Revegetation of approximately 5.59 acres of areas where monotypic patches of pepper weed and other nonnative plant species will be removed and replaced with riparian woodland/scrub;
- Revegetation of approximately 1.73 acres of areas disturbed by humans where nonnative plants and weeds will be removed and replaced with riparian woodland/scrub;
- Revegetation of approximately 1.54 acres of areas temporarily disturbed by vegetation and sediment removal will be planted with riparian woodland/scrub;
- Enhancement and revegetation of approximately 2.13 acres in the old mining pit where the area will be re-contoured and planted with riparian woodland/scrub; and,
- Enhancement and revegetation of riparian woodland/scrub in approximately 26.91 acres where nonnative and invasive plant species will be removed from the understory and replaced with native plant species (where appropriate).

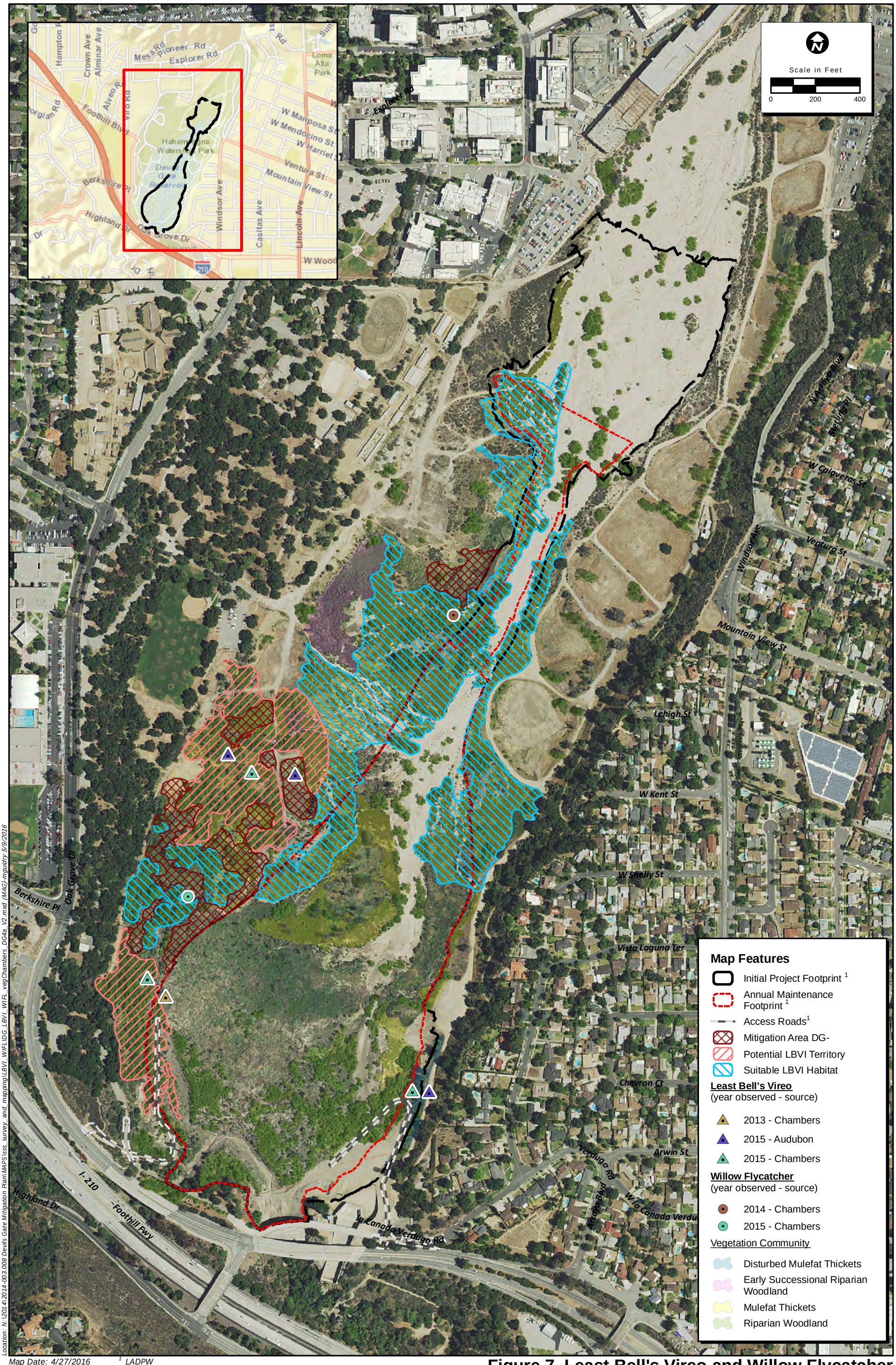
Habitat restoration activities will result in a temporary impact to approximately 2 to 3 acres of marginally suitable habitat for listed species. The re-establishment of a drainage channel in the western portion of the Reservoir will temporarily remove approximately 0.5 acres of habitat, which will be revegetated following the completion of the construction. Approximately 0.5 to 1.5 acres of marginally suitable habitat will be temporarily removed to re-contour and improve the functions in the old mining pit. An additional 1.0 to 1.5 acres of marginally suitable habitat will be temporarily removed to re-contour the western and southern sides of Johnson Field to match the adjacent habitat areas.

Project Impacts to Potentially Suitable Habitat

Information from recent surveys and focused species reports for the Project was analyzed to determine potential impacts to least Bell's vireo and southwestern willow flycatcher associated with initial vegetation and sediment removal activities, annual vegetation and sediment removal maintenance activities, and mitigation implementation and maintenance activities. For the purpose of this permit application, project impacts to least Bell's vireo and southwestern willow flycatcher are based on identified suitable vegetation communities considered occupied or considered unoccupied, suitable nesting habitat for these species or areas considered unoccupied marginally suitable habitat. In early 2016, ECORP conducted a walk-through of the habitats in the Reservoir where least Bell's vireo family groups and willow flycatchers were noted during a focused survey for western yellow-billed cuckoo during the summer of 2015. The purpose of the walk-through was to evaluate the habitat to get an estimate of the potential territories that may have been used by the least Bell's vireos that were incidentally sighted in 2015. The evaluation, which was conducted by a biologist with extensive experience conducting nest monitoring for least Bell's vireos, was based on a visual observation of the structure and composition of the habitat. The biologist also walked through the riparian habitat in the

remainder of the Reservoir (within and outside of the permanent and temporary impact areas) to evaluate other habitat areas that exhibited the typical structure and plant composition used by least Bell's vireos or that might be considered suitable. In general, the marginally suitable habitat consisted of those areas that supported some of the riparian plant species typical of least Bell's vireo habitat but lacked the typical multi-layered structure. For example, some areas supported mostly monotypic patches of mulefat or disturbed mulefat (with nonnatives) with a very limited overstory consisting of just a few willows or other nonnative tree species. Other marginally suitable habitat areas supported a more dense arrangement of willows but the areas were lacking an understory or the understory was very sparse and contained nonnative plant species. Figure 7 shows the riparian habitat areas mapped by ECORP in 2016 that may represent two territories where least Bell's vireos were incidentally sighted in 2015 as well as locations where least Bell's vireos and willow flycatchers were observed in 2013, 2014, and 2015. In addition, the figure also shows the areas considered to be marginally suitable habitat for least Bell's vireo and southwestern willow flycatcher. Table 3 summarizes the project impacts, both permanent and temporary, to the areas that might have represented territories for least Bell's vireos, to the habitat areas considered marginally suitable for least Bell's vireos, and to non-breeding habitat for the southwestern willow flycatcher. Degraded riparian habitat areas that did not contain the proper structure or plant composition and areas previously mapped as riparian communities that have been replaced by nonnative and invasive plant species were not included in the areas designated as marginally suitable habitat areas.

Permanent impacts are associated with the initial vegetation removal from the permanent maintenance area. This area will not be allowed to revegetate to a dense riparian woodland community; however, vegetation will be allowed to grow in the permanent maintenance area on an annual basis before it is removed in the late summer or fall. The temporary impacts are associated with the initial vegetation removal that will allow for sediment removal and then the temporary impact areas will be replanted with native vegetation.



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Map Date: 4/27/2016
Photo Source: NAIP 2014

[1] LADPW
[2] Chambers Group

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 7. Least Bell's Vireo and Willow Flycatcher Observations and Potential Nesting Habitat

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A total of approximately 34.92 acres of marginally suitable nesting habitat for least Bell's vireo and habitat for non-nesting southwestern willow flycatchers was mapped within the Reservoir in early 2016. Actual territories were not mapped during 2015 so they were estimated in early 2016. The habitat is considered marginally suitable due to the high percentage of nonnative and invasive plants in the understory of the riparian woodland in many areas and the lack of a multi-layered structure throughout much of the Reservoir. Many areas are composed of an overstory of willows without a dense understory of native vegetation or a dense patch of mulefat with little to no overstory of willows. In each of these situations, the habitat would be considered suitable for foraging but only marginally suitable or unsuitable for nesting least Bell's vireos. Focused surveys will be conducted in 2016 to further define the occupied territories and the suitable habitat within the Reservoir and the project footprint. A total of approximately 10.80 to 11.80 acres of potentially occupied least Bell's vireo territories (1.30 acres) and marginally suitable habitat (9.50 to 10.50 acres) will be directly impacted by the initial vegetation clearing associated with the sediment removal project and the habitat restoration associated with the mitigation portion of the project (Table 3). The impact to the 13.19 to 14.19 acres is approximately 37.77 to 40.63 percent of the total marginally suitable habitat within the Reservoir.

Table 3. Impacts to Suitable Habitat for Least Bell's Vireo Territories and Non-Nesting Southwestern Willow Flycatchers

Covered Species	Total Acreage	Permanent Impact	Temporary Impact	Total Impact*
Potentially Occupied Least Bell's Vireo Territories	9.58	0.80	0.50	1.30
Marginallly Suitable Habitat for LBVI and Non-nesting SWFL	25.43	8.00	3.89 to 4.89	11.89 to 12.89
TOTAL – Marginally Suitable Habitat for LBVI and Non-nesting SWFL	34.92	8.80	4.39 to 5.39	13.19 to 14.19

*The impacts will be revised based on the results of focused surveys conducted in 2016

A total of approximately 1.30 acres of potentially occupied least Bell's vireo territories will be affected by the project, which is 13.57 percent of the total areas (9.58 acres) mapped as potentially occupied territories. The initial vegetation removal associated with the sediment removal project will result in a direct take of 0.80 acre (25 percent) of a 3.11-acre territory potentially occupied by a pair of least Bell's vireos in 2015. A second potentially occupied least Bell's vireo territory (approximately 6.47 acres) will not be directly affected by the initial vegetation removal but a small area (0.50 acre or 7.73 percent) will be temporarily affected during the habitat restoration activities. The temporary impact area will be restored following the re-establishment of the drainage in the western portion of the Reservoir.

Approximately 9.89 acres of unoccupied, marginally suitable habitat (excluding potentially occupied territories) will be removed during the initial vegetation clearing, including 8.0 acres in the permanent maintenance area and 1.89 acres in the temporary impact areas. An additional 2.00 to 3.00 acres of unoccupied, marginally suitable habitat will also be temporarily removed

as a result of habitat restoration activities. The removal of the 11.89 to 12.89 acres is approximately 46.75 to 50.69 percent of the total unoccupied, marginally suitable habitat for least Bell's vireo and non-breeding habitat for southwestern willow flycatchers. The 1.89 acres of temporary impact areas and the 2.00 to 3.00 acres of habitat removed for habitat restoration activities will be restored following the initial sediment removal.

The initial removal of nonnative and invasive plants associated with the habitat restoration will remove approximately 5.59 acres of areas covered by monotypic stands of perennial pepper weed. These patches of pepper weed are located between the riparian vegetation patches in the western portion of the Reservoir. During the fall and winter of 2016, the large amount of vegetative debris left over from multiple seasons of annual growth of pepper weed will be cleared out of these areas. In addition, perennial pepper weed debris scattered in among the existing riparian vegetation communities may also be removed as part of this initial effort. This activity will not remove any native riparian vegetation. These efforts will not result in a direct take of individuals or potential breeding habitat for least Bell's vireo or of non-breeding habitat for southwestern willow flycatcher.

(6) Impacts of the Proposed Take on the Species (CCR § 783.2(a)(6))

This section discusses how and to what extent the Project impacts could directly and indirectly impact least Bell's vireo and southwestern willow flycatcher without the implementation of mitigation measures. Mitigation measures to avoid take, or to fully mitigate when avoidance is not possible, are discussed in Section 8.

Summary of Focused Species Surveys

Table 4 provides a summary of the focused surveys conducted for least Bell's vireo and southwestern willow flycatcher within the project area. A summary of a focused survey for western yellow-billed cuckoo in 2015 is included because of incidental sightings of least Bell's vireo and willow flycatchers. An observation of least Bell's vireo that occurred during the IMP project in 2015 is also listed in the table.

Surveys for the willow flycatcher and yellow-billed cuckoo were conducted by qualified biologists with the appropriate federal and state authorizations and permits. The focused surveys for least Bell's vireo were conducted by biologists with permits for southwestern willow flycatcher, or otherwise by experienced field biologists on days where surveys for vireo only were required. Permit numbers for willow flycatcher and yellow-billed cuckoo biologists are provided in the legend in Table 4.

Least Bell's Vireo

Eight-visit protocol surveys for least Bell's vireo were conducted for the Devil's Gate Reservoir site in 2010, 2013, and 2014 (Chambers 2010, 2013, 2014; Appendices A through C). One unpaired male least Bell's vireo was observed during 4 of the 8 surveys during 2013; no female was detected during any of the 2013 surveys and no nesting behavior was observed. This species was not detected during the 2010 or 2014 surveys and the 2014 survey report noted a decline in the quality of habitat occupied by the vireo male in 2013 (Appendix C).

Table 4. Summary of Focused Surveys for State-Listed Species*

Surveyors	Dates	Results	Report Reference
Least Bell's Vireo Only Surveys			
LL, MM	May 27-August 19, 2010	Negative for vireo	Chambers 2010
LL, CV	April 17-July 9, 2013	Positive – 1 unpaired male vireo was identified during 4 of the first 6 surveys. No female was observed and no nesting behavior was identified.	Chambers 2013
Willow Flycatcher and Least Bell's Vireo Combined Surveys			
LL, HF	May 9-July 22, 2014	Negative for vireo (noted in report that the quality of the habitat where vireo was observed in the previous year had declined); 1 migrant willow flycatcher detected on May 20, but negative for nesting southwestern willow flycatcher.	Chambers 2014
Western Yellow-Billed Cuckoo			
JG	July 25-August 14, 2015	Negative for cuckoo. Two vireo family groups were observed on August 14 and one willow flycatcher family group observed on August 14.	Chambers 2015
HF	September 11, 2015	One vireo observed near ponded area at Lower Alta Dena Drain on September 11 during monitoring of the IMP project	Chambers 2015
CV: Corey Vane, HF: Heather Franklin, JG: John Griffith (TE758157), LL: Linette Lina (TE161483-1), MM: Mike McEntee			

*2016 Protocol Surveys for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo are in progress and results will be reported when surveys are completed

Additional observations of least Bell's vireo for the Project site include incidental sightings of two least Bell's vireo family groups during surveys for western yellow-billed cuckoo on August 14, 2015 (Chambers 2015; Appendix D), one individual observation during monitoring for the IMP project (Chambers 2015), and three separate individual sightings in 2015 reported for an Audubon checklist (eBird 2015). The group observations were recorded as one family group that consisted of one adult male and two juveniles and the other group, either a family group or possible juvenile group, consisted of either an adult with one or more juveniles or 2 to 3 juveniles. The Audubon sighting of individuals were recorded on March 24, August 18, and September 11, 2015. The locations of all least Bell's vireo observations are shown on Figure 7.

Although no nests were observed within the Project area in 2015, the recorded behavior and locations of least Bell's vireo indicates a potential presence of two least Bell's vireo territories. Two 2015 Audubon sightings of least Bell's vireo, recorded on March 24 and August 19, were made in the same general vicinity as the more northern family group identified on August 14 during the 2015 yellow-billed cuckoo survey. These various sightings support evidence of a possible territory to the west of the impact area. Suitable nesting habitat and recorded observations for this group are approximately 300 feet west of the project impact area. The second family group identified on August 14, 2015 was documented in the same vicinity as a lone male that was observed during the 2013 least Bell's vireo surveys. An additional Audubon record for least Bell's vireo was recorded on September 11, 2015. This individual was observed in the eastern portion of the site and, due to the time of year, is considered a migrating individual, possibly from one of the identified family groups. One additional sighting on September 11, which occurred during monitoring for the IMP project, was noted at approximately the same location as the September 11, 2015 Audubon sighting. Protocol surveys for least Bell's vireo are currently in progress for 2016 to determine if nesting vireos are present in the Reservoir.

For the purpose of this application, suitable nesting habitat for least Bell's vireo is defined as multi-structured, dense, willow-dominated riparian woodland with a well-developed understory of mulefat and other native shrubby vegetation, such as arroyo willow. The understory shrub thickets provide nesting habitat and most nest sites are located near the edges of thickets. The actual number of acres of occupied least Bell's vireo territories could not be determined because focused surveys were not conducted for this species in 2015. However, in early 2016 ECORP mapped the potential territories for the two family groups based on the habitats where the family groups were observed. Based on the 2016 mapping, the entire Reservoir area may have supported a total of approximately 9.58 acres of areas potentially occupied by least Bell's vireos in 2015. The potential territory for the family group observed in the west-central portion of the Reservoir encompasses approximately 6.47 acres while the potential territory size for the family group observed in the southwestern portion of the Reservoir encompasses approximately 3.11 acres. The Recovery Plan for the least Bell's vireo states that nesting territories generally range from 0.5 to 7.5 acres in size. The potential territories mapped in early 2016 fit within the territory size estimate from the recovery plan.

An additional approximately 25.43 acres of marginally suitable habitat was also mapped by ECORP in 2016. The habitat is considered marginally suitable habitat for least Bell's vireo because much of it has been degraded as a result of an infestation of perennial pepper weed and other nonnatives plant species. In addition, mortality of many of the willows that previously

comprised the overstory has occurred as a result of sediment flows after the Station Fire. The marginally suitable habitat areas generally consist of those areas that support some of the riparian plant species typical of least Bell's vireo habitat but lack the typical multi-layered structure. Some of the marginally suitable habitat areas support mostly monotypic patches of mulefat or disturbed mulefat (with nonnatives) with a very limited overstory consisting of just a few willows or other nonnative tree species. Other marginally suitable habitat areas support a more dense arrangement of willows but they are lacking an understory or the understory is very sparse and contains nonnative plant species. These areas would be more characteristic of foraging habitat than nesting habitat.

Based on the areas that were determined to be occupied during 2015 and the degraded nature of the areas identified as marginally suitable, the estimated carrying capacity of the entire Reservoir in its current condition is likely just two or maybe three pairs. The areas where the two family groups were observed are areas in the Reservoir that provide both the structure and plant composition typically associated with least Bell's vireo nesting habitat. The establishment of the permanent maintenance area will permanently impact approximately 0.80 acre of habitat that may be part of a potential least Bell's vireo territory in the southwestern portion of the Reservoir. In addition, approximately 8.00 acres of marginally suitable habitat would be permanently affected and approximately 1.89 acres would be temporarily disturbed by the Project (Table 3).

The mitigation for the Project is designed to create and restore additional areas with the multi-structured willow riparian woodland and scrub that will provide suitable nesting habitat for least Bell's vireo. Approximately 3.44 acres of riparian habitat will be created where it does not currently exist and an additional 8.97 acres of areas will be restored to riparian habitat. The restoration will be conducted in areas that used to be riparian habitat but currently support monotypic patches of invasive and nonnative plants or are areas that are currently disturbed and do not support riparian vegetation. An additional 27.92 acres of existing riparian vegetation will be enhanced and restored through the removal of invasive and other nonnative plants and the supplemental planting of willows and mulefat to create a multi-structured habitat suitable for nesting least Bell's vireos. The creation and restoration of nesting habitat and the improvements made to existing marginally suitable habitat will greatly increase the potential least Bell's vireo carrying capacity in the areas located outside of the permanent maintenance area. Based on the degraded condition of the vegetation in 2015, the entire Reservoir may have only been able to support the nesting activities two pairs of least Bell's vireos. The carrying capacity for the entire Reservoir based on current conditions is likely two pairs of least Bell's vireos. With the proposed creation, restoration, and enhancement of the 41.34 acres of higher quality and higher functioning riparian habitat than currently exists in the areas located outside of the permanent maintenance boundary, the carrying capacity will likely be raised to between 5 and 7 pairs of least Bell's vireos. The mean territory size range from the Recovery Plan is 0.5 to 7.5 acres. This conservative estimate is based on using a range in territory sizes of approximately 5 to 8 acres, which is at the higher estimate of territory sizes. This may be appropriate because least Bell's vireos are relatively uncommon in this portion of Los Angeles County, which is likely due to a lack of suitable habitat. With the planned restoration of higher quality habitat in Devil's Gate Reservoir, the numbers of vireos nesting there will likely increase over time.

Initial Vegetation Removal

The initial removal of vegetation in the permanent and temporary impact areas will have direct effects on least Bell's vireo through the loss of riparian vegetation that has the potential to support nesting or migrating birds. The permanent vegetation loss will include approximately 0.80 acre of habitat that may have been occupied during the 2015 breeding season and approximately 8.00 acres of degraded but marginally suitable habitat. In addition, approximately 1.89 acres of degraded but marginally suitable habitat will be temporarily impacted during the initial vegetation removal. The initial vegetation removal is not expected to have any direct impacts to nesting least Bell's vireos because the vegetation will be removed during the non-breeding season (between September 15 and March 15) when this species is not actively nesting in the area.

Initial Sediment Removal Impacts

The initial sediment removal activities will be conducted from approximately April through November for up to five years or until the excess sediment is removed from the initial project footprint. Potential indirect impacts to nesting least Bell's vireo during sediment removal could result from noise and vibration, fugitive dust, increased human activity, and the activities associated with operating the construction equipment. Noise, vibration, and other similar activities in areas adjacent to nest locations may disrupt foraging or breeding birds and could cause temporary or permanent nest abandonment, resulting in nest failure. Migrating vireos are not expected to be substantially affected by these impacts because they are highly mobile, they are not restricted to staying in nesting territories, and they could leave the area to avoid exposure to these impacts. In addition, there is ample riparian habitat located outside of the project footprint that will provide foraging, cover, and shelter opportunities for migrating vireos.

Additional indirect effects potentially occurring from the sediment removal activities, include habitat fragmentation, habitat degradation due to invasive plant species, increased risk of nest parasitism from brown-headed cowbirds (*Molothrus ater*), and increased predation (e.g., by urban-related predators such as cats and dogs and mesopredators such as raccoons and skunks).

Based on the design of the Project activities, sediment removal would create a temporary loss of foraging and migrating habitat in and adjacent to riparian communities. The majority of this vegetation removal would occur in areas that are barren, sparsely vegetated, or they support large areas of nonnative and invasive vegetation that do not represent habitat for least Bell's vireos. In addition, the largest impact will be to the unvegetated wash areas, which would not be expected to support least Bell's vireos. The roads, trails, open washes, or sparsely vegetated areas within or along riparian communities are edge areas that already exist in the Reservoir. Much of the central portion of the project footprint does not contain habitat that would support the nesting activities of least Bell's vireos. A southern California study analyzed the effects of habitat edge, nest site characteristics, nest predation, and adjacent land uses and found that the distance from the riparian edge, as well as gaps within the riparian zone, did not affect nest predation (Kus et al. 2008). Therefore, the small sections of new edge areas that could temporarily be created by sediment removal activities are not expected to create a significant increase in edge-related edge effects, such as brown-headed cowbird nest parasitism and urban-related predation. The indirect effects associated with habitat fragmentation will be

minimal due to the fact that the distance between the habitat areas on the east and west sides of the project footprint will range from approximately 100 to 900 feet. Suitable habitat will be located on both sides of the project footprint area within the line of sight so vireos will be able to easily access the habitat on both sides. In addition, vireos will be able to travel through the vegetation that grows in the permanent maintenance area between the annual maintenance events.

Sediment Removal Maintenance Impacts

Sediment removal maintenance activities would be implemented following the completion of the initial sediment removal and would be conducted annually beginning in late August of each year. Activities will include the removal of vegetation and sediment within the areas identified as a permanent maintenance area for the Project. Potential indirect impacts to least Bell's vireo during sediment removal maintenance include noise and vibration, fugitive dust, presence of construction equipment, and increased human activity. If the vegetation and sediment removal activities are initiated in late August, noise, vibration, and other similar disruptive activities will not be likely to interfere with nesting activities because the nesting period for least Bell's vireos generally ends around July 31. After that time, family groups may still be present in the habitat areas until they migrate to their wintering grounds. Any sediment removal maintenance conducted in late August or after is unlikely to result in indirect take of migrating vireos because individuals will be moving through the area rather than occupying a breeding territory that may be affected by these activities.

Mitigation Implementation Impacts

Invasive and Nonnative Plant Removal and Maintenance

The removal of trash, debris, and the dead thatch located in areas where perennial pepper weed and other nonnative plants and weeds are dominant will be conducted after the breeding activities for least Bell's vireo have concluded. During the initial stage of mitigation implementation, perennial pepper weed and other nonnative plants and weeds will be removed from the understory in various areas throughout the Reservoir and outside of the permanent maintenance area. Initial control activities for perennial pepper weed and other nonnative species in the highly infested areas (5.59 aces) may require large-scale mowing and hand removal. In order to minimize soil compaction, rubber-tired vehicles (i.e., tractors, front-end loaders) with mowing attachments will perform the bulk of the biomass removal. Multiple years of thatch have accumulated in many of these areas and this biomass will need to be removed to conduct future control and restoration activities. Hand removal or string-trimmers will be employed in the areas adjacent to sensitive resources, open water, or native vegetation. These areas are located immediately adjacent to suitable least Bell's vireo habitat but riparian vegetation will not be removed. The timing of the initial removal will be during the non-breeding season so this activity will not result in direct impacts to nesting or migrating least Bell's vireos.

Following mechanical removal activities, re-sprouting perennial pepper weed plants and other nonnative plants and weeds in the heavily infested areas will be foliarly treated with an herbicide prior to the bolting or flower bud stage. Herbicides and associated surfactants used for these activities will be the same as previously described for the undesirable plant removal in

the permanent maintenance area and will be those that are best suited to control the target species. The herbicides will be applied with backpack sprayers and the herbicides will only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, or known habitat for threatened or endangered species) is minimal (e.g., when wind is blowing away from the sensitive areas). Herbicide treatments will be conducted as necessary throughout the growing season of the target plants. Several treatment cycles may need to be conducted during the breeding season to get control of the regrowth of the pepper weed and other nonnative plants and weeds. During these cycles, the crews will move fairly quickly through the riparian habitats and will not be spending long periods of time in any one area. Once they spray an area, the crew just moves on to the next area and they will not return until the next cycle. Each cycle through the entirety of the mitigation areas may take approximately one to two weeks to complete. The application of herbicides may have indirect sub-lethal impacts on least Bell's vireos in areas adjacent to where treatments take place as a result of wind-drift of the herbicides or from airborne sediment containing herbicides if herbicides are applied in unfavorable wind conditions.

For those areas where perennial pepper weed patches and other undesirable plants are interspersed with native vegetation, control will require a combination of hand removal and spot treatments with approved herbicides. Hand tools, string-trimmers, and/or herbicide will be used to achieve this task. The goal is to eliminate weed seedlings before they mature. If flowering parts are present, they will be cut and collected, bagged, removed from the site, and taken to an approved off-site location for disposal. Herbicide treatments and manual control methods will be conducted as necessary throughout the growing season of the target plants. Several weeding cycles may be conducted during the breeding season and each weeding cycle may take one to two weeks to complete. These cycles would be conducted concurrently with herbicide treatments as described in the previous paragraph. The presence of humans applying herbicides and the activities associated with manual removal may have an indirect impact on least Bell's vireos occurring in areas adjacent to where the activities are taking place. During hand removal and string-trimming activities, the crews will move fairly quickly through the areas and will not spend long periods of time in any one location.

Removal of large, heavily-infested patches of perennial pepper weed (5.59 acres) and other nonnative plants and weeds in areas adjacent to areas occupied by least Bell's vireos will result in areas where no vegetation is present for a period of time. Herbicide treatments will need to be repeated on a regular basis and possibly for multiple years in order to eliminate the seed bank in the soil. A temporary irrigation system may be installed in these areas in order to actively conduct grow-and-kill cycles to speed up the eradication of the undesirable species. When the level of infestation is at a manageable level, the areas will be planted with native species. Until that time, the open areas will slightly increase the amount of edge adjacent to the suitable habitat areas. However, at present, the perennial pepper weed and other nonnative plants and weeds in these areas create edge effects because these areas do not have the multi-layered structure that is typically associated with suitable vireo habitat. As a result, any increase in the edge is expected to be minor. Potential indirect impacts to least Bell's vireos may occur as a result of this minor temporary habitat edge effect.

Indirect effects on nesting least Bell's vireos may also potentially occur if Argentine ants become established in areas where regular irrigation occurs for the purposes of grow-and-kill or

for helping the plants in the restoration areas become established. Argentine ants have been known to attack and kill bird nestlings. If the ants do attack least Bell's vireos nests, then there is a potential that least Bell's vireo nestlings may be lost as an indirect take of the mitigation portion of the Project.

Nonnative Plant Control in the Permanent Maintenance Area

Herbicide applications (using backpack sprayers) and manual weed removal activities (hand-pulling and string-trimmers) will be conducted in the permanent maintenance area to control invasive plants and other nonnative plants and weeds. The purpose is to keep these undesirable plant species from spreading to the preserved riparian habitats and other areas located outside of the permanent maintenance area. Removal activities are expected to occur during the active growing season for the target species and will coincide with a portion of the breeding season for least Bell's vireo. The application of herbicides may have indirect sub-lethal impacts on least Bell's vireos in areas adjacent to where treatments take place as a result of wind-drift of the herbicides or from airborne sediment containing herbicides if herbicides are applied in unfavorable wind conditions.

Re-Establishment of Drainage Channels

Re-establishment of drainage channels through the western portion of the Reservoir may be conducted to increase the function of the existing drainages and to ensure adequate water supplies to the habitats after the permanent maintenance area is constructed. This re-establishment of the drainages will require the use of mechanized equipment (e.g. backhoe, bulldozer) to establish the drainage and to remove excess soils, if necessary. Construction may impact a small amount of existing riparian vegetation as a result of the equipment accessing the areas and removal of select plants in order to establish the channel. The chosen path of the constructed channels will be planned to avoid as much native vegetation as possible. The construction of the channels will be conducted during the non-breeding season for least Bell's vireo so there will be no direct take of individuals or nests. Direct impacts to a small amount of suitable habitat will occur, which may result in a loss of nesting, foraging, and resting habitat. The acreage of habitat loss is expected to be approximately 0.50 acre) but the actual amount cannot be quantified until the project engineering is completed and construction is implemented.

Recontouring of Areas Adjacent to Johnson Field

Removal of the maintenance road around the western and southern edges of Johnson Field will be conducted in order to create willow woodland, mulefat scrub, and wetlands after the sediment is removed from Johnson Field. The removal will include contouring the land to match the existing, natural contours that will exist when the banks of the permanent maintenance area are established on the west side and those that are present on the south side of Johnson Field. The establishment of the natural contours may result in the removal of a small amount of marginally suitable mulefat scrub on the west and south sides of Johnson Field. Compaction of the newly contoured banks will not be conducted, rather, ripping of the existing access roads and smoothing of the soils will be utilized to create the contours. The impacts are expected to be 1.0 to 1.5 acres and will be supervised by a restoration specialist in order to minimize the number of plants impacted by the construction. The actual acreage of impacts cannot be determined until the project engineering is completed and the construction is implemented.

Recontouring of Areas in the Former Mining Pit

The former mining pit, located in the west-central portion of the Reservoir, will be partially re-contoured and undesirable soils will be removed to improve the wetland and riparian functions in the area. Import of sandy soils from the sediment removal area and mixing with existing soils may be conducted to raise the elevation in the pit and improve drainage so that water doesn't pool in the area. The goal will be to modify the contours to provide better drainage towards the western portion of the Reservoir. The initial recontouring and undesirable soil removal will be conducted during the non-breeding season using mechanized equipment (e.g., backhoe, bulldozer, skid steer, and etc.). The work will be completed during the fall/winter and would not be expected to extend into the breeding season. Direct impacts to potentially suitable habitat for least Bell's vireo may occur as a result of the recontouring and soils removal activities. A limited amount of willows and mulefat and nonnative plant species will need to be removed during the recontouring of the pit and for the purposes of undesirable soils removal. The actual amount of native vegetation that will be affected by these activities cannot be quantified until the final design is completed but it is expected to be in the range of 0.5 to 1.5 acres. The actual impact to the vegetation will be determined during the final design for the restoration at the mining pit. A restoration ecologist will also be present during the activities to limit the amount of native vegetation removed during these activities. Recontouring and sediment removal is not expected to be an ongoing activity in the old mining pit. The area will be planted with mulefat and willows in the appropriate areas after the recontouring is completed. These species will be expected to fill in and create a multi-structured habitat. If large inputs of sediment do occur in the future, it may result in mortality of some of the habitat. However, if this does occur then adaptive management would be undertaken to replant as necessary to adapt to the changed conditions.

Installation of Container Plants, Pole Cuttings, and Seeding

Container planting activities in and adjacent to suitable least Bell's vireo habitat may be conducted in late fall, winter, and potentially early spring (likely November through March) and will avoid the breeding season. All container plant installation activities will be conducted by hand except mechanized equipment (e.g., auger) may be used to dig holes for the container plants, as necessary. Direct impacts to least Bell's vireos are not expected to occur as a result of the container planting activities. Potential indirect impacts to vireos may occur if birds arrive in March and planting is being conducted during that time. The indirect impacts would result from the presence of humans while the container plants are being installed in areas adjacent to suitable habitat. Planting can likely be scheduled to avoid adverse effects to least Bell's vireos.

The primary planting that will be conducted as part of the restoration plan for the Project is the installation of pole cuttings from willows and mulefat. This will require the collection of the cuttings just as the willows break dormancy in late winter. Cuttings will be taken from existing willows and mulefat plants in the Reservoir. The cuttings will be taken from various areas throughout the Reservoir so as to not to cause stress to existing trees and shrubs by over-pruning. Entire plants will not be removed as part of this activity so there will not be any direct impacts on least Bell's vireos. Indirect effects may occur if least Bell's vireos arrive early and are present in the habitats when the cuttings are begin taken. The activity will be of short duration so the crews will not be present in the habitat for very long. The indirect effects would result from the presence of humans and the activities associated with taking the cuttings.

Seeding activities in and adjacent to suitable least Bell's vireo habitat may be conducted in the late fall, winter, and potentially early spring in order to take advantage of winter rains and to avoid the breeding season. The application of seed materials may be conducted by imprinting if the sites are large enough or by hydroseeding or hand-broadcast seeding if the sites are smaller or more difficult to access. If the seeding of larger areas is conducted using the imprinting technique, then a small tractor pulling the imprinter will be used. If hydroseeding is the method used for seeding, then most likely, the hydroseed truck would be parked on the perimeter access roads and the hose will be extended out to the sites. If the hose isn't long enough, then an alternative seeding method will be used. Seeding will most likely be conducted in the non-breeding season (November to February) and as a result, there will be no direct impacts on least Bell's vireos. If seeding is conducted in late winter or as late as early spring (March or April), there is a potential for indirect impacts to least Bell's vireos if any birds arrive and inhabit areas adjacent to where the seeding will be conducted. The indirect impacts would result from the presence of humans and the associated activities. If least Bell's vireos are present, then the use of mechanized equipment can be avoided. Seeding is a very quick task that will only result in humans and/or equipment being in the potential habitat areas for a short duration of time.

Irrigation of Container Plants and Cuttings

Watering will need to be conducted periodically throughout the year and the frequency will depend upon rainfall, temperatures, and drought conditions. Watering will either be accomplished with a temporary irrigation system or with various hand-watering methods. Installation of a temporary irrigation system may occur in some of the mitigation sites but it will depend upon location. Those sites closest to the dam that might be subject to more frequent inundation would be less suitable for an irrigation system. Those sites furthest from existing water, drainage flow paths, and inundation areas will more likely be the target of a temporary irrigation system. The locations of where the irrigation systems are installed will be determined on a case-by-case basis. The temporary irrigation systems will be installed outside of the breeding bird season so there will be no direct or indirect impacts on least Bell's vireos from the installation. Maintenance of the irrigation systems may require human presence in the mitigation sites for short durations. A potential exists for indirect impacts to least Bell's vireos from humans while doing maintenance on the irrigation systems.

Indirect effects on nesting least Bell's vireos may potentially occur if Argentine ants become established in areas where regular irrigation occurs for the purposes of helping the plants in the restoration areas become established. Argentine ants have been known to attack and kill bird nestlings. If the ants do attack least Bell's vireos nests, then there is a potential that least Bell's vireo nestlings may be lost as an indirect take of the mitigation portion of the Project.

Watering with a water truck and hose and hand-watering are two other methods that will likely be employed to water container plants and cuttings in areas where a temporary irrigation system cannot be installed. Using a water truck will require that a hose be pulled out to the mitigation sites while the truck is parked on the perimeter access roads. Hand-watering may be used for planting locations furthest from the access roads. In this case, humans carrying buckets will likely be the method used for this task. Watering of container plants and cuttings will not have a direct impact on least Bell's vireos. The presence of humans conducting the watering during the breeding season may have an indirect impact on least Bell's vireos.

The duration for supplemental irrigation in the various restoration sites will likely be for three years after planting. The assumption is made that the plants will be adequately established by the time and the irrigation will be discontinued. If some areas are slower to establish or if the planting in the restoration areas is phased over multiple planting seasons, then supplemental irrigation may be occurring in isolated areas on varying schedules/numbers of years.

Hydrological Impacts

The primary purpose of Devil's Gate Dam is for downstream flood protection and as such, water will be held behind the dam at varying elevations for varying durations depending upon the volume of water inflow during and after storms. Water enters the Reservoir directly from flows in the Arroyo Seco, from culverts that drain surrounding developed areas, and as sheet flow from adjacent areas. The hydrology and the hydrologic impacts of the Project on existing vegetation in the proposed mitigation areas are important factors to consider in determining potential impacts to suitable habitat for least Bell's vireos and southwestern willow flycatchers. The following explanation of the hydrology is supported by the attachments included in Appendix E.

Groundwater

The project area overlies the Raymond Groundwater Basin (Raymond Basin), which is located within the Los Angeles-San Gabriel Hydrologic Unit. Raymond Basin's average annual precipitation is approximately 21 inches; and groundwater recharge is possible through the penetration of rain falling on alluvial surfaces, returns from irrigation water, and infiltration of stream flow, primarily from the San Gabriel Mountains. Stream flows that collect in Devil's Gate Reservoir and also flows that are diverted to the adjacent City of Pasadena's Arroyo Seco Spreading Grounds contribute to groundwater recharge of the Raymond Basin.

According to available monitoring well data from the adjacent Jet Propulsion Laboratory (JPL) site (Attachment 1) water level elevations measured at MW-3 in 2012 ranged from 973 feet to 1004 feet amsl. During a site investigation in 2011, groundwater was encountered at soil borings B-3, B-4, and B-9 (Attachment 2) at a depth of 22 to 25 feet below ground surface (approximate elevations of 1022, 1019, and 1010 feet, respectively). The water encountered in the three borings indicates the presence of a perched aquifer at those locations (Attachment 3).

LACFCD has several groundwater monitoring wells adjacent to Devil's Gate Reservoir, which have data dating back to the 1920s, and the approximate locations of these wells are shown in Attachment 4. Attachment 5 is a graph showing the historic groundwater elevations from a monitoring well on the east side of the Reservoir. The groundwater levels in Devil's Gate Reservoir have been fairly consistent over the life of the dam. The groundwater levels do fluctuate over time, but typically keep within the 900 to 1,000-foot amsl. This is consistent with the dynamics of a reservoir system, as the amount of rainfall received and water impounded in the Reservoir can affect the level of the groundwater table. For example, water impounded in the Reservoir will permeate into the ground, thus raising the groundwater table in the surrounding area. Similarly, when little rainfall is received, and water is still being extracted from the groundwater table, the elevation of the groundwater over the entire basin will drop.

Attachment 6 is a graph showing the groundwater levels at various Reservoir capacities. A decrease in Reservoir capacity represents an increase in sediment levels. As can be seen in

Attachment 6, the historic groundwater levels in the Reservoir show no correlation between sediment levels and groundwater elevation. Rather, the correlation between rainfall received, water entering the Reservoir, and groundwater levels indicates that water within the Reservoir dictates the groundwater elevations.

Water Held behind Devil's Gate Dam

Table 5 shows information regarding the water held behind Devil's Gate Dam since the spillway elevation change in 1997. The retrofit of Devil's Gate Dam in 1997 lowered the elevation of the spillway ports to 1040.5', and thereby reduced the amount of Reservoir capacity below the spillway. The table shows the total amount of days that water was held behind the dam and the maximum elevation that the water level reached each water year.

Table 5. Water Levels at Devil's Gate Reservoir

Water Year	Days Water Pool Present	Max. Water Elevation (ft amsl)
1998/1999	35	1,009.1
1999/2000	24	1,007.3
2000/2001	28	1,007.0
2002/2003	115	1,029.6
2003/2004	50	1,028.6
2004/2005	201	1,045.4
2005/2006	118	1,008.8
2007/2008	28	1,033.1
2008/2009	7	1,000.0
2009/2010	119	1,036.8
2010/2011	124	1,039.9
2011/2012	122	1,030.9
2012/2013	120	1,018.2
2013/2014	87	1,034.5
2014/2015	134	1,028.0

After the sediment cleanout project, any water held above the 1,020-foot contour will continue to inundate the west side of the Reservoir, as it currently does. Attachment 7 shows the capacity of the Reservoir in 2009 and after project implementation, respectively. After project implementation, there will be more capacity within the permanent maintenance area to hold water. This will increase the amount of water allowed to permeate the side slopes and provide soil moisture to the mitigation areas.

Table 6 shows the yearly inflow into Devil's Gate Reservoir over the past 15 years. Excluding the water year 2004/2005, the average yearly inflow into Devil's Gate Reservoir is approximately 8,400 acre-feet All inflow to Devil's Gate eventually flows downstream, and any downstream mitigation areas will not be affected by the Project.

Attachments 8 and 9 show the results of a hydrological analysis of Devil's Gate Reservoir after the Approved Project. Attachment 8 models the storage and flow of 2-year frequency design storm with the Approved Project cut plan. From the summary results shown in Attachment 8, it can be seen that with the Approved Project cut plan and the current operation plan, the peak storage and elevation within the Reservoir would have been 1,829 acre-feet and 1,042.4 feet, respectively. This model shows that under the 2-year frequency design storm the Reservoir will be filled to spillway elevation. Attachment 9 models the storage and flow of an actual storm that occurred in the watershed of Devil's Gate Reservoir in 2008 under the Approved Project cut plan. The 2007/2008 water year was chosen to model for being an average water year in terms of rainfall. The January 4 – 8 storm represents a 2 to 5 year frequency storm that occurred within the 2007/2008 water year. From the summary results shown in Attachment 9, it can be seen that with the Approved Project cut plan, the peak storage and elevation within the Reservoir would have been 1580.1 acre-feet and 1039.8 feet, respectively. From the two different scenarios modeled for the Approved Project cut plan, it can be concluded that the western portion of the Reservoir will be inundated regularly.

Table 6. Total Yearly Inflow to Devil's Gate Reservoir

Water Year	Total Inflow (acre-ft.)
1999/2000	15,792
2000/2001	12,259
2001/2002	1,731
2002/2003	3,137
2003/2004	2,071
2004/2005	134,360
2005/2006	6,573
2006/2007	4,717
2007/2008	13,962
2008/2009	2,579
2009/2010	19,143
2010/2011	33,340
2011/2012	2,298
2012/2013	513

Flow Paths

Attachment 10 shows the contours and estimated flow path of Devil's Gate Reservoir in January 2009, pre-Station Fire. Pre-Station Fire conditions show water flowing from the north end of the Reservoir towards the face of the dam through channels that were cut by storm flows. The contours in Attachment 10 show several braided channels within the north end of the Reservoir that converge into one main channel that flows toward the dam, all within the proposed project boundary. Attachment 11 shows the proposed configuration post-project. After the completion of the Devil's Gate Sediment Removal Project, the water will flow through a path similar to the pre-Station Fire. Even though the Reservoir will be evenly graded during construction within the project boundary, the water flowing into the permanent maintenance area will continue to meander and braid through the sediment deposited during storms.

Reservoir Profile

Attachment 12 shows Devil's Gate Reservoir Profile before the Station Fire (2009), after the Station Fire (2011, 2012, and 2014), and after the project. The vertical scale has been exaggerated in relation to the horizontal scale to view the profiles. The unevenness of the 2009 sediment profile is the result of long-term deposition of sediment and erosion from periodic storm flows. The 2011 sediment profile shows the large influx of sediment resulting from the Station Fire and, other than the interim cleanout of sediment right behind the dam, the large amount of sediment continued to persist into 2014. The elevation of the sediment will be lowered within the project boundary, but the slope will still remain gradual, with an average slope of approximately 1.7 percent.

Riparian Vegetation

Attachment 13 shows the tributary drainage areas west of Devil's Gate Reservoir that drain into the Reservoir. This attachment also shows the calculated flow and volume from each area into the Reservoir for various storm return intervals. From the table shown on Attachment 13, a total of 33 acre-feet of storm flows enter the Reservoir from the western tributaries during a 2-year frequency storm. The volume of flows from the western tributaries can reach up to 89 acre-feet during a 50-year frequency storm.

Attachment 14 is an aerial of Devil's Gate Reservoir in June 2009, before the Station Fire. This is following the 2008 – 2009 storm season, in which water was not held behind the dam at a high elevation or for very long, as shown in Table 6. Even so, the aerial shows persistent vegetation established throughout the Reservoir. Cross sections across the Reservoir in 2009 are shown in Attachment 15. Comparing the riparian vegetation in the aerial (Attachment 14) and the cross sections in Attachment 15, it can be seen that riparian vegetation is abundant above the ordinary high water mark (1,020-foot elevation). In addition, riparian vegetation has persisted throughout the Reservoir, even after several drought years.

With the combination of the western tributary flows, historic groundwater elevations, and water levels behind Devil's Gate Dam, riparian vegetation is expected to persist and to be able to establish in mitigation areas on the west side of the Reservoir. Attachment 16 shows the proposed contours of the project over the proposed mitigation plan. All proposed mitigation under the 1,040-foot contour will be below spillway, and therefore subject to inundation. Attachment 17 shows cross sections similar to those in Attachment 15, but for the post-project Reservoir configuration. The relationship between the ordinary high water mark and the proposed mitigation area is similar to that in 2009. When water is held in the Reservoir, the water will permeate into the side slopes, providing adequate soil moisture for the vegetation.

Periodic inundation of the riparian vegetation outside of the permanent maintenance area has the potential to directly impact suitable habitat for nesting least Bell's vireos. However, the duration of inundation is expected to be relatively short and it is not expected to result in mortality of willows and cottonwoods. If inundation of riparian habitat occurs during the breeding season, then a potential exists for direct take of least Bell's vireo nests if the nests are located in areas that become inundated. However, the typical period when inundation is most likely to occur is January through March when most of the storms occur. Male least Bell's vireos typically start arriving on the breeding grounds in mid-March with females arriving one to two

weeks later and breeding activities begin in April. Therefore, inundation impacts are expected to be uncommon because the typical period when inundation may occur is over when the vireos typically begin nesting.

Summary of Potential Impacts to Least Bell's Vireo

Implementation of the Project is will remove potential nesting and foraging habitat for the least Bell's vireo but it is not expected to result in the failure of any active least Bell's vireo nests due to the implementation of avoidance and minimization measures. Table 7 lists the potential acreage of permanent and temporary impacts to potential territories that may have been occupied in 2015 and to marginally suitable habitat for the least Bell's vireo.

Table 7. Summary of Potential Impacts to Least Bell's Vireo

Type of Habitat	Impact Type	Impact Duration	Acreage
Potential Breeding Territory	Vegetation and Sediment Removal	Permanent	0.80
Potential Breeding Territory	Habitat Restoration	Temporary	0.50
Marginally Suitable for Nesting and Foraging	Vegetation and Sediment Removal	Permanent	8.00
Marginally Suitable for Nesting and Foraging	Vegetation and Sediment Removal	Temporary	1.89
Marginally Suitable for Nesting and Foraging	Habitat Restoration	Temporary	0.50 to 1.50 (Mining Pit) 1.00 to 1.50 (Johnson Field)
		TOTAL IMPACTS	12.69 to 14.19

Implementation of the initial vegetation removal in the permanent maintenance area may result in the permanent loss of 0.80 acre of habitat that was potentially part of a territory that may have been occupied by a least Bell's vireo in 2015. In addition, approximately 8.00 acres of marginally suitable habitat for least Bell's vireos may also be permanently removed during the initial vegetation removal. The Project may also temporarily disturb approximately 1.89 acres of marginally suitable habitat during the initial vegetation removal; however, this habitat will be restored after the sediment has been removed from the area. The marginally suitable habitat lacks the multi-layered structure of willows and mulefat that is typical of least Bell's vireo nesting habitat. Rather, the marginally suitable habitat tends to be stands of mulefat that is co-dominant with nonnative species with very few willows or nonnative trees in the overstory. Also, other areas described as marginally suitable support an overstory of willows with little native vegetation in the understory or the understory is primarily comprised of nonnative plants. An additional 0.50 acre of a territory that may have been occupied in 2015 will be temporarily affected by habitat restoration activities when a drainage is re-established through the western portion of the Reservoir. Also, approximately 0.5 to 1.5 acre of potentially suitable habitat will be temporarily affected as a result of improvements to the old mining pit and 1.0 to 1.5 acres of marginally suitable habitat will be temporarily affected as a result of recontouring of Johnson

Field to match the adjacent habitat areas. All of the habitat restoration activities and the initial vegetation removal in the project footprint will be conducted in the non-breeding season.

The duration of the permit will be for 25 years, which will coincide with the duration of the Lake or Streambed Alteration Agreement for the Project. The requested covered activities include:

- Permanent impacts to 0.80 acre of a potentially occupied territory;
- Temporary impacts to approximately 0.50 acre of a potentially occupied territory for the purposes of habitat restoration (re-establishing drainage channels);
- Permanent impacts to approximately 8.00 acres of marginally suitable habitat;
- Temporary impacts to approximately 1.89 acres of marginally suitable habitat for sediment removal activities;
- Temporary impacts to approximately 0.5 to 1.50 acre of potentially suitable habitat for the purposes of habitat restoration in the old mining pit;
- Temporary impacts to approximately 1.0 to 1.5 acres of marginally suitable habitat for the purposes of removal of roads adjacent to Johnson Field and recontouring to match adjacent habitat areas; and,
- Indirect impacts associated with habitat restoration activities (removal of invasive and nonnative vegetation, irrigation, and the presence of humans during weeding).

The Project's effects on the least Bell's vireo are not substantial after the application of minimization and mitigation strategies described in Section 8 of this application.

Willow Flycatcher

One five-visit protocol survey was conducted for willow flycatcher at Devil's Gate Reservoir in 2014 (Chambers 2014; Appendix C). One willow flycatcher was detected during one of the survey visits on May 20, 2014. This single-day observation of a willow flycatcher individual in mid-May indicates that it was likely a migrant passing through the area. An incidental observation of a group of three willow flycatchers[3], consisting of at least one adult and at least one juvenile, was recorded during surveys for yellow-billed cuckoo on August 14, 2015 (Chambers 2015; Appendix D). Willow flycatchers have not been detected between June 22 and July 17, which is considered the time period when only the southwestern willow flycatcher would be present. Observations of nesting, paired, or territorial southwestern willow flycatchers have not been documented on or in the vicinity of the Project.

Suitable nesting habitat for southwestern willow flycatcher consists of dense riparian vegetation near water or saturated soil. Habitat typically contains dense vegetation in the patch interior, often interspersed with small openings, sparser vegetation, or open water that creates a habitat mosaic of variable density. It nests in shrub and tree thickets 4 to 7 meters tall, with dense foliage 0 to 4 meters above the ground, and usually a high canopy coverage. Generally flycatchers are not found nesting in areas without willow, tamarisk, or both (USFWS 2013).

The Project vicinity has not historically been documented as a nesting location for southwestern willow flycatcher. The closest known nesting location is documented as a nest building record

[3] Species was documented as southwestern willow flycatcher in the 2015 Chambers survey report; however, due to the timing of the observation, a definitive identification of the subspecies cannot be made.

for the species located along the Santa Clara River in Soledad Canyon, approximately 18 miles northwest of the Project (CDFW 2016).

The Project area does not currently support riparian habitat with the characteristics identified for suitable breeding habitat for southwestern willow flycatcher and nesting southwestern willow flycatchers have not been documented in the vicinity of the Project. Suitable migrating habitat for the southwestern willow flycatcher is present and migrating willow flycatchers have been documented within Devil's Gate Reservoir. The restoration and enhancement of the riparian habitat in the areas located outside of the permanent maintenance area will increase the amount of suitable migrating habitat for southwestern willow flycatchers within the mitigation areas of the Project. For the purpose of this ITP application, the potentially suitable migrating habitat for southwestern willow flycatcher is the same as the potentially occupied and marginally suitable habitat considered for the least Bell's vireo.

Initial Vegetation Removal

The initial removal of vegetation in the permanent and temporary impacts areas will have potential direct effects to the southwestern willow flycatcher as a result of the removal or disturbance of riparian vegetation that has the potential to support migrating birds. The area is not expected to support nesting southwestern willow flycatchers considering the lack of suitable nesting habitat and the degraded nature of the habitat that does exist in the Reservoir. The areas where the sediment removal activities will occur lack suitable nesting habitat for southwestern willow flycatcher and these areas would not be expected to naturally develop nesting habitat for this species considering the downward trend in the quality of the habitat. The project is not expected to result in direct impacts to riparian habitat during the nesting season and therefore, there is no potential for the loss of active nests, eggs, nestlings, and/or fledglings. The permanent vegetation loss will include approximately 8.80 acre of marginally suitable habitat that could potentially be used by this species during migration. In addition, approximately 1.89 acres of degraded but marginally suitable habitat will be temporarily impacted during the initial vegetation removal.

If initial vegetation removal activities are conducted in September, then there is a potential for indirect impacts to southwestern willow flycatchers that may be migrating through the area. The activities associated with the vegetation removal, including the operations of the construction equipment, noise, fugitive dust, and the presence of humans, may cause migrating flycatchers to avoid the areas where these activities are occurring. The existing riparian habitat located outside of the permanent maintenance area will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers.

Initial Sediment Removal Impacts

The initial sediment removal activities will be conducted from approximately April through October or November for up to five years or until the excess sediment is removed from the permanent maintenance area. Potential indirect impacts to nesting southwestern willow flycatchers are not expected because this species is not known to nest in the Project area. Indirect impacts to migrating southwestern willow flycatchers may occur during sediment removal as a result from noise and vibration, fugitive dust, increased human activity, and the activities associated with operating the construction equipment. However, the existing riparian

habitat located outside of the permanent maintenance area will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Migrating individuals are typically only present for short periods of time in April/May and August/September as they stopover on their way to breeding or wintering grounds. Therefore, the indirect impacts on southwestern willow flycatchers from the sediment removal activities are expected to be minimal.

Sediment Removal Maintenance Impacts

Sediment removal maintenance activities will be implemented following the completion of the initial sediment removal and will be conducted annually beginning in late August of each year. Activities will include the removal of vegetation and sediment within the areas identified as a permanent maintenance area for the Project. Potential indirect impacts to migrating southwestern willow flycatchers during sediment removal maintenance include noise and vibration, fugitive dust, presence of construction equipment, and increased human activity. However, the existing riparian habitat located outside of the permanent maintenance area will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Migrating individuals would typically only present for short periods of time in August/September as they stopover on their way to the wintering grounds. Therefore, the indirect impacts on southwestern willow flycatchers from the sediment removal maintenance activities are expected to be minimal.

Mitigation Implementation Impacts

Invasive and Nonnative Plant Removal and Maintenance

The removal of trash, debris, and the dead thatch located in areas where perennial pepper weed and other nonnative plants and weeds are dominant will be conducted in the fall (September/October) when migrating southwestern willow flycatchers may be moving through the area on their way to the wintering grounds. The perennial pepper weed and other nonnative plants and weeds will be removed from the understory in various areas located outside of the permanent maintenance area. Initial control activities for perennial pepper weed and other nonnative species in the highly infested areas will require large-scale mowing and hand removal. In order to minimize soil compaction, rubber-tired vehicles (e.g., tractors, front-end loaders) with mowing attachments will perform the bulk of the biomass removal. Multiple years of thatch have accumulated in many of these areas and will need to be mowed concurrently with any live biomass that is present. The removal of the top layer of soil may also need to be removed if accumulated salts will have an impact on the potential restoration of habitat in these areas. Hand removal or weed whips will be employed in those areas adjacent to sensitive resources, open water, or native vegetation. These areas are located immediately adjacent to suitable migratory habitat but riparian vegetation will not be removed. The existing riparian habitat located outside of the work areas will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Since migrating individuals would typically only present for a short period of time in August/September, the indirect impacts on southwestern willow flycatchers from the initial invasive plant removal activities are expected to be minimal.

Following mechanical removal activities, re-sprouting perennial pepper weed plants and other nonnative plants and weeds in the heavily infested areas will be foliarly treated with an herbicide prior to the bolting or flower bud stage. Herbicides and associated surfactants used for these activities will be the same as previously described for the undesirable plant removal in the permanent maintenance area and will be those that are best suited to control the target species. The herbicides will be applied with backpack sprayers and the herbicides will only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, or known habitat for threatened or endangered species) is minimal (e.g., when wind is blowing away from the sensitive areas). Herbicide treatments will be conducted as necessary throughout the growing season of the target plants, including when southwestern willow flycatchers may be migrating through the area in the spring and fall. The existing riparian habitat located outside of the work areas will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Since migrating individuals would typically only present for a short period of time in April/May and August/September, the indirect impacts on southwestern willow flycatchers from the periodic herbicide treatments are expected to be minimal.

For those areas where perennial pepper weed patches and other undesirable plants are interspersed with native vegetation, control will require a combination of hand removal and spot treatments with approved herbicides. Hand tools, weed whips, and/or herbicide will be used to achieve this task. The goal is to eliminate weed seedlings before they mature. If flowering parts are present, they will be cut and collected, bagged, removed from the site, and taken to an approved off-site location for disposal. Herbicide treatments and manual control methods will be conducted as necessary throughout the growing season of the target plants, including when southwestern willow flycatchers may be migrating through the area in the spring and fall. The presence of humans applying herbicides and the activities associated with manual removal may have an indirect impact on migrating southwestern willow flycatchers if the activities are conducted in areas adjacent to where these birds are foraging or seeking cover. The existing riparian habitat located outside of the work areas will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Since migrating individuals would typically only present for a short period of time in April/May and August/September, the indirect impacts on southwestern willow flycatchers from the periodic herbicide treatments and nonnative weed control activities are expected to be minimal. The application of herbicides may have indirect impacts migrating southwestern willow flycatchers in areas adjacent to where treatments take place as a result of wind-drift or airborne sediment containing herbicides if herbicides are applied in unfavorable wind conditions.

Nonnative Plant Control in the Permanent Maintenance Area

Herbicide applications and manual weed removal activities (hand-pulling and weed whips) will be conducted in the permanent maintenance area to control invasive plants and other nonnative plants and weeds. The purpose is to keep these undesirable plant species from spreading to the preserved riparian habitats and other areas located outside of the permanent maintenance area. Removal activities are expected to occur throughout the active growing season for the target species and will coincide with a portion of the migration season for southwestern willow flycatchers. The herbicide applications will be conducted using backpack sprayers. Since the vegetation in the permanent maintenance area will not be located adjacent

to existing, suitable habitat for southwestern willow flycatchers, the activities are not expected to directly impact this species.

Re-Establishment of Drainage Channels

Re-establishment of drainage channels through the western portion of the Reservoir may be conducted to increase the function of the existing drainages and to ensure adequate water supplies to the habitats after the permanent maintenance area is constructed. This re-establishment of the drainages will require the use of mechanized equipment (e.g., backhoe, bulldozer) to construct the drainage and to remove excess soils, if necessary. Construction may impact a small amount of existing riparian vegetation as a result of the equipment accessing the areas and removal of select plants in order to establish the channel. The chosen path of the constructed channels will be planned to avoid as much native vegetation as possible. The construction of the channels will likely be conducted in the late summer or fall when migrating southwestern willow flycatchers may be present. Direct impacts to suitable migratory habitat may occur as a result of the select removal of some individuals of mulefat and willows during construction of the drainage. The acreage is expected to be less than 0.50 acre but the actual amount cannot be quantified until the project engineering is completed and the construction is implemented.

Recontouring of Areas Adjacent to Johnson Field

Removal of the trail around the western and southern edges of Johnson Field will be conducted in order to create willow woodland and mulefat scrub after the sediment is removed from Johnson Field. The removal will include contouring the land to match the existing, natural contours that exist in the Reservoir in areas west and south of Johnson Field. The establishment of the contours may result in the removal of a small amount of existing mulefat scrub on the west and south sides of Johnson Field. The temporary impacts are expected to be approximately 1.0 to 1.5 acres and will be supervised by a restoration specialist in order to minimize the number of plants impacted by the construction. The actual acreage of impacts cannot be determined until the project engineering is completed and the construction is implemented. Recontouring of the trails west and south of Johnson Field will result in direct impacts to a small amount of potentially suitable migratory habitat for southwestern willow flycatchers.

Recontouring of Areas Adjacent to the Former Mining Pit

The former mining pit, located in the west-central portion of the Reservoir, will be partially re-contoured and undesirable soils will be removed to improve the wetland and riparian functions in the area. The recontouring and soils removal will be conducted during the non-breeding season using mechanized equipment (e.g., backhoe, bulldozer, skid steer). A limited amount of willows and mulefat and nonnative plant species will need to be removed during the recontouring of the pit and for the purposes of sediment removal. The actual amount of vegetation that will be affected by these activities cannot be quantified at this time but it is expected to be approximately 0.5 to 1.5 acres. A restoration ecologist will be present during the activities to limit the amount of native vegetation removed during these activities. Direct impacts to potentially suitable migratory habitat for southwestern willow flycatchers may occur as a result of the recontouring and sediment removal activities.

Installation of Container Plants, Pole Cuttings, and Seeding

Container planting and seeding activities in and adjacent to suitable migratory habitat for southwestern willow flycatchers may be conducted in late fall, winter, and potentially early spring (likely November through March) and will avoid the seasons when migrating individuals may be present. Therefore, these activities are not expected to have direct or indirect impacts on migrating southwestern willow flycatchers.

Irrigation of Container Plants and Cuttings

Watering will need to be conducted periodically throughout the year and the frequency will depend upon rainfall, temperatures, and drought conditions. Watering will either be accomplished with a temporary irrigation system or with various hand-watering methods. Installation of a temporary irrigation system may occur in some of the mitigation sites but it will depend upon location. Irrigation may need to be conducted in areas immediately adjacent to suitable migratory habitat. The existing riparian habitat located outside of the areas where temporary irrigation systems may be installed will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. Since migrating individuals would typically only present for a short period of time in August/September, the indirect impacts on southwestern willow flycatchers from the installation of temporary irrigation systems are expected to be minimal.

Watering with a water truck and hose and hand-watering are two other methods that will likely be employed to water container plants and cuttings in areas where a temporary irrigation system cannot be installed. Using a water truck will require that a hose be pulled out to the mitigation sites while the truck is parked on the perimeter access roads. Hand-watering may be used for planting locations furthest from the access roads. In this case, humans carrying buckets will likely be the method used for this task. Watering of container plants and cuttings will not have a direct impact on migrating southwestern willow flycatchers. The presence of humans conducting the watering may have an indirect impact on migrating southwestern willow flycatchers, however, the existing riparian habitat located outside of the areas where watering is occurring will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. The indirect impact to southwestern willow flycatchers from activities associated with the hand-watering of plants is expected to be minimal.

Hydrological Impacts

Periodic inundation of riparian vegetation is not expected to result in impacts to the willow flycatcher because this species is migratory and its mobile nature allows individuals to leave the area, if necessary. See the previous discussion of hydrology for the least Bell's vireo.

Summary of Potential Impacts to Willow Flycatcher

Implementation of the Project is not anticipated to result in the failure of any active southwestern willow flycatcher nests or remove habitat that would be considered nesting habitat for this species. Table 8 lists the potential acreage of permanent and temporary impacts to non-nesting habitat for the southwestern willow flycatcher.

Table 8. Summary of Potential Impacts to Non-Nesting Southwestern Willow Flycatcher Habitat

Type of Habitat	Impact Type	Impact Duration	Acreage
Marginally Suitable Non-Nesting Habitat	Vegetation and Sediment Removal	Permanent	8.80
Marginally Suitable Non-Nesting Habitat	Vegetation and Sediment Removal	Temporary	1.89
Marginally Suitable Non-Nesting Habitat	Habitat Restoration	Temporary	2.00 to 3.00
		TOTAL IMPACTS	12.69 to 14.19

The Project will result in permanent impacts to approximately 8.80 acres and temporary impacts to 1.89 acres of habitat considered marginally suitable migratory habitat for this species. Temporary impacts from the habitat restoration activities will affect marginally suitable habitat when the channels are re-established in the western portion of the Reservoir (approximately 0.5 acre), when the mining pit is re-contoured (0.5 to 1.5 acres), and when the roads on the west and south sides of Johnson Field are removed and re-contoured to match adjacent habitat areas (1.0 to 1.5 acres). The Project may result in minimal indirect impacts to migrating southwestern willow flycatchers as a result of the disturbances associated with construction activities or habitat restoration and maintenance activities that may be conducted during the months when this species may be migrating through the area. However, the existing riparian habitat located outside of the areas where construction and habitat restoration and maintenance activities will be occurring will provide ample amounts cover, shelter, and foraging opportunities for migrating southwestern willow flycatchers. The effect of the Project on the southwestern willow flycatcher is not expected to be substantial. Implementation of avoidance and minimization measures (Section 8 of the ITP) as well as the creation and restoration of additional suitable migratory habitat for this species will result in beneficial impacts to this species.

Additional State-Listed Species

This permit application covers all state-listed species currently expected to occur within the Project area. If any other listed species are identified in the area over the course of the Project, any applicable avoidance and minimization measure strategies will be implemented and CDFW will be notified. If it is determined that the species could potentially be adversely affected by Project activities, an amendment to include the new species to the existing ITP will be requested at that time.

(7) Would Permit Jeopardize the Continued Existence of a Species? (CCR § 783.2(a)(7))

For the reasons discussed in detail below, the Project is considered unlikely to jeopardize the continued existence of the two state-listed species included in this permit application. During Project activities, 0.80 acre of riparian habitat that may have been part of a least Bell's vireo territory in 2015 and 8.00 acres of marginally suitable habitat, for a total of 8.80 acres, will be permanently affected and 1.89 acres of marginally suitable habitat will be temporarily affected. An additional 2.0 to 3.5 acres of marginally suitable habitat will be temporarily affected by the habitat restoration activities. Habitat restoration activities associated with mitigation measures are expected to result in 41.34 acres of higher quality and higher functioning riparian habitat on site in Devil's Gate Reservoir. Therefore, the Projects effects on the two species' overall ability to survive and reproduce in the wild, and any adverse impacts of those abilities, are not substantial after the application of minimization and mitigation strategies (see Section 8 below).

This section provides an analysis of how the issuance of the ITP would affect the continued existence of each of the species described above. The conclusion of no jeopardy considers the species' ability to survive and reproduce throughout its range, and any adverse impacts on those abilities in light of known population trends, known threats to the species, and reasonably foreseeable impacts on the species from other related projects and activities.

The mitigation measures that would be implemented by LACFCD to avoid, minimize, and mitigate potential impacts to the two state-listed species included in this permit application are identified in this section. The full text of these mitigation measures is provided in Section 8.

Least Bell's Vireo

Issuance of the ITP would not jeopardize the continued existence of the least Bell's vireo for the following reasons:

Ability to Survive and Reproduce

Protocol surveys documented a small number of least Bell's vireo in the Reservoir but nesting least Bell's vireos were not observed in 2015. Two family groups were noted in the area located outside of the project footprint. Due to the relatively mobile nature of this species, it is unlikely that Project activities would result in loss of individual vireos. While there are potential Project impacts that may occur to the species, these potential impacts are not expected to affect the species' ability to reproduce due to the implementation of avoidance and minimization measures that will provide protection of nests (See Section 8).

The Project is not expected to affect the vireo's ability to survive and reproduce within its breeding range for three reasons: 1) the Project represents a very small subset of the breeding range and breeding populations of least Bell's vireos are relatively rare in the region; 2) mobile adults and migrating individuals would likely be able to avoid direct and indirect impacts; and 3) avoidance and minimization measures will be implemented during the breeding season for the purpose of protecting nests and avoiding impacts to nesting vireos.

Adverse Impacts of Taking On Ability to Survive and Reproduce in Light of:

Known Population Trends

Once considered common in the late 1800s and early 1900s by naturalists, the least Bell's vireo declined drastically due to habitat degradation and loss coupled with brown-headed cowbird parasitism (Kus and Whitfield 2005). Populations declined so much that, at the time of federal listing in 1986, less than 300 pairs were estimated to inhabit only a few breeding areas in southern California (USFWS 1998). However, since the federal listing, the general population trend for the least Bell's vireo has been positive, growing substantially since 1986. Since 1986, the U.S. vireo populations have increased from 291 to 2,968 known territories in California (USFWS 2006). Even though populations in Los Angeles County have been estimated to only represent approximately 1 to 2 percent of the overall population (more than half of the population is found in San Diego County), substantial growth has been documented in this portion of the vireo's range. Since 1986, the estimated number of vireo territories in Los Angeles County increased to 56 (estimated between 2001 and 2005) from a low of 1 estimated between 1986 and 1990 (USFWS 2006). These upward population trends have been attributed to successful habitat protection and restoration paired with brown-headed cowbird control.

Known Threats

Habitat loss and degradation is the single biggest threat to the least Bell's vireo. At the time of federal listing in 1986, approximately 95 percent of suitable riparian habitat had been removed from the vireo's range (USFWS 2006). Anthropogenic factors such as flood control, urban development, agricultural conversion, off-road vehicle use, military activities, nonnative plan invasion, and livestock grazing have all contributed to the loss of least Bell's vireo habitat (USFWS 1998; USFWS 2006; Kus and Whitfield 2005). Complicating these threats is the additional pressure from brown-headed cowbird nest parasitism, which has been known to have substantial effects on localized vireo populations (Kus and Whitfield 2005).

It is unlikely that Project activities would result in direct impacts to least Bell's vireo nesting activities because vegetation removal activities will be conducted in late summer and fall when vireos would be expected to have completed their nesting cycles. Once the riparian vegetation has been removed from the Project area, there will be no opportunities for the vireo to nest within the sediment removal or annual maintenance footprints. Loss of marginally suitable habitat could result in direct effects to least Bell's vireo foraging and migrating activities in the form of habitat fragmentation and increased edge effects due to the debris and perennial pepper weed removal within and adjacent to suitable vireo habitat within the mitigation sites; however, this will not be a substantial effect to the vireo because these areas will be restored and revegetated as a result of mitigation implementation. Indirect impacts may occur to the least Bell's vireo in the form of noise, vibrations, increased human activity, and fugitive dust,

which may affect nesting, foraging, and migrating activities. These disruptions could lead to alterations in behavior that may result in the failure of least Bell's vireo nests. Implementation of avoidance and minimization measures (Section 8) would reduce the impacts resulting from Project activities to a level that would not jeopardize the continued existence of the species.

Reasonably Foreseeable Impacts from Other Related Projects and Activities

The reasonably foreseeable impacts to least Bell's vireo from other projects in the vicinity of the Project area are discussed in detail in Section 3.6.6, Impacts and Mitigation, of the Final EIR. Other projects occurring in the vicinity of the Project could result in impacts to nesting least Bell's vireo if activities associated with those projects correlated with the activities planned for the Devil's Gate Sediment Removal Project. Nearby proposed projects that may result in additional impacts to this species include the Hahamongna Watershed Park Multi-Benefit/Multi-use Project, which involves construction of recreational trails and public facilities adjacent to the Devil's Gate Reservoir; Arroyo Seco Canyon Project, which involves rehabilitation or removal of water facilities and installation of a public restroom; and the Devil's Gate Water Conservation Project, which involved installation of a pump and intake on the upstream face of Devil's Gate Dam. Activities for these three projects occurring within riparian vegetation could result in various direct and indirect impacts to least Bell's vireo, such as noise, exotic plant infestations, increased human activity, increased predation, brown-headed cowbird nest parasitism, and fragmentation of habitat. Combined with the potential impacts of the Devil's Gate Sediment Removal Project, and without the mitigation measures proposed for the Project, these impacts could increase the amount of disturbances for least Bell's vireo in the region, which could affect nesting success.

Measures to Avoid, Minimize, and Mitigate Impacts

Applicant Proposed Measures (APM) will be implemented to reduce impacts to least Bell's vireos. These APMs include nesting bird surveys, focused surveys for least Bell's vireo, noise monitoring, activity restrictions during the breeding season, work area confinement, and restoration of closed recreational trails. In addition, Mitigation Measures BIO-1 through BIO-4 and BIO-8 will be implemented to further protect general wildlife and least Bell's vireo on site. These measures include biological monitoring, worker educational briefing, pre-construction wildlife survey, bird exclusionary measures, nesting bird surveys, establishing no-work buffers around active nests, and habitat restoration/enhancement to offset direct impacts to riparian vegetation.

These measures will result in no net loss of suitable nesting and foraging habitat for the least Bell's vireo. In fact, implementation of these measures will result in a net increase in the amount of suitable habitat and an increase in the function of the habitats, which will ultimately be a beneficial impact of the Project. Furthermore, with implementation of the aforementioned measures, the numbers of least Bell's vireo are not expected to decrease as a result of the project. In reality, the numbers of least Bell's vireos are expected to increase due to the presence of additional and higher quality habitat for this species. These measures fully mitigate the impacts of the Project on the least Bell's vireo and issuance of the ITP would not jeopardize the continued existence of the species.

Southwestern Willow Flycatcher

The analysis below addresses impacts to the southwestern willow flycatcher because it has the potential to migrate through the Project area. Issuance of the ITP would not jeopardize the continued existence of the willow flycatcher for the following reasons:

Ability to Survive and Reproduce

Southwestern willow flycatchers have not been observed nesting in the Project area. In addition, no observations of paired or territorial southwestern willow flycatchers have been documented in the Project area during protocol surveys. One migrant individual and one family group (three individuals with at least one adult and at least one juvenile), which was also presumed to be migrating through the area, have been documented during focused surveys conducted in 2014 and 2015. Due to the relatively mobile nature of this species, it is unlikely that Project activities would result in loss of individual willow flycatchers. While there are potential Project impacts that may occur to the species, these potential impacts are not expected to affect the species' ability to reproduce due to specific limitations that will restrict or not permit certain project-related activities during the nesting season.

The Project is not expected to affect the flycatcher's ability to survive and reproduce within its breeding range for three reasons: 1) the Project represents a very small subset of the species' range and this species has not been observed nesting in this portion of its range, 2) only migrating willow flycatchers (and presumably southwestern willow flycatchers) have been observed in the Project area; and 3) migrating individuals will be able to avoid direct and indirect impacts due to their mobile nature and because they can move to riparian habitat located outside of the impact areas to support their foraging activities and to seek cover and shelter.

Adverse Impacts of Taking On Ability to Survive and Reproduce in Light of:

Known Population Trends

Since completion of the Southwestern Willow Flycatcher Recovery Plan in 2002 (USFWS 2002) there has been an increase in the overall abundance of flycatcher territories; however, not all areas within the Designated Critical Habitat has seen the same trend. For example, focused surveys performed within the Coastal California Recovery Unit in Southern California found that territories declined from an estimated 186 in 2002 to an estimated 120 in 2007 (USFWS 2014). This recovery unit has experienced the most substantial decline in the number of known territories since 2002. This may be due to a decrease in survey effort throughout the recovery unit paired with the documented decline of territories at some well-known breeding sites.

Less has been documented regarding small southwestern willow flycatcher populations; however, several breeding territories have been documented within California, mostly north of the Project site. Craig and Williams (1998) have documented approximately 23 to 36 territories in Sierra County that have been stable since 1982, five territories in Alpine County, and a possible breeding population along the Klamath River. The authors also note observations of small willow flycatcher populations in McCloud and Siskiyou Counties (72) and Warner Creek Valley and Plumas Counties (42) in 1997.

Known Threats

Threats to the southwestern willow flycatcher are similar to the least Bell's vireo: loss and degradation of habitat, nest parasitism by the brown-headed cowbird, and anthropogenic factors such as water management, agricultural conversion, and livestock grazing (USFWS 2014; USFWS 2002; Craig and Williams 1998; USFWS 1998). An additional threat to the southwestern willow flycatcher is habitat degradation due to the spread of the tamarisk leaf beetle, a biocontrol method to prevent the spread of tamarisk (*Tamarix* spp.), because of the willow flycatcher's propensity to use and nest in tamarisk stands (USFWS 2014).

Protocol surveys have not documented any evidence of nesting southwestern willow flycatchers within the Project area. Furthermore, the Project site lacks suitable nesting habitat for the this species; therefore, nesting activities are not expected within or adjacent to the Project area. Direct and indirect impacts to southwestern willow flycatcher nesting activities are not expected.

Migrating individuals have been observed moving through the Project area. The permanent removal of 8.80 acres of marginally suitable habitat and temporary impacts to 1.89 acres of marginally suitable habitat will result in a direct loss of potential habitat for migrating southwestern willow flycatchers. However, because the initial vegetation removal activities will be primarily conducted at the end of the fall migration period, it is unlikely that Project activities will result in direct impacts to migrating southwestern willow flycatchers. Indirect impacts to migrating individuals may occur as a result of noise, ground vibration, increased human activity, construction activity, and fugitive dust. However, because there is ample riparian habitat located outside of the permanent and temporary impact areas that will continue to provide foraging opportunities and cover and shelter for migrating southwestern willow flycatchers, the Project is not expected to result in the loss of migrating flycatchers. Limiting Project activities during the migratory season and implementation of minimization and mitigation measures described in Section 8 will reduce the impacts resulting from Project activities to a level that will not jeopardize the continued existence of the species.

Reasonably Foreseeable Impacts from Other Related Projects and Activities

The reasonably foreseeable impacts to willow flycatcher from other projects within the vicinity of the Project area are discussed in detail in Section 3.6.6, Impacts and Mitigation, of the Final EIR. Other projects occurring in the vicinity of the Project could result in impacts to migratory southwestern willow flycatchers if activities associated with those projects correlated with the activities planned for the Devil's Gate Sediment Removal Project. Nearby proposed projects that may result in additional impacts to this species include the Hahamongna Watershed Park Multi-Benefit/Multi-use Project, which involves construction of recreational trails and public facilities adjacent to the Devil's Gate Reservoir; Arroyo Seco Canyon Project, which involves rehabilitation or removal of water facilities and installation of a public restroom; and the Devil's Gate Water Conservation Project, which involved installation of a pump and intake on the upstream face of Devil's Gate Dam. Activities for these three projects occurring within riparian vegetation could result in various direct and indirect impacts to southwestern willow flycatcher, such as noise, exotic plant infestations, increased human activity, increased predation, and fragmentation of habitat. Combined with the potential impacts of the Devil's Gate Sediment Removal Project, and without the mitigation measures proposed for the Project, these impacts

could increase the amount of disturbances for southwestern willow flycatcher in the region, which could affect migrating behavior.

Measures to Avoid, Minimize, and Mitigate Impacts

APMs will be implemented to reduce impacts to the southwestern willow flycatcher. These APMs include nesting bird surveys, noise monitoring, activity restrictions during the breeding season, work area confinement, and restoration of closed recreational trails. In addition, Mitigation Measures BIO-1 through BIO-4 and BIO-8 will be implemented to further protect general wildlife and southwestern willow flycatchers on site. These measures include biological monitoring, worker educational briefing, pre-construction wildlife survey, bird exclusionary measures, nesting bird surveys, and habitat restoration/enhancement to offset direct impacts to riparian vegetation.

These measures will result in no net loss of suitable migrating and foraging habitat for the willow flycatcher. In fact, implementation of these measures will result in a net increase in the amount of suitable habitat and an increase in the function of the habitats, which will ultimately be a beneficial impact of the Project. Furthermore, with implementation of the abovementioned measures, the number of southwestern willow flycatchers is not expected to decrease as a result of the project. In reality, the numbers of migrating southwestern willow flycatchers using the area may increase due to the presence of additional habitat and higher quality habitat for this species. These measures fully mitigate the impacts of the Project on the southwestern willow flycatcher and issuance of the ITP would not jeopardize the continued existence of the species.

(8) Proposed Measures to Minimize and Fully Mitigate the Impacts of the Proposed Taking (CCR § 783.2(a)(8))

The minimization and mitigation program has been designed to avoid and/or off-set the potential direct and indirect impacts identified for the two state-listed species addressed in this application. The impacts to least Bell's vireos and southwestern willow flycatchers that are expected under this permit application are listed in Table 9. A complete compensatory mitigation plan is provided in Appendix F.

Table 9. Summary of Impacts to Least Bell's Vireo and Southwestern Willow Flycatcher

Type of Habitat	Impact Type	Impact Duration	Acreage
LEAST BELL'S VIREO			
Potential Breeding Territory	Vegetation and Sediment Removal	Permanent	0.80
Potential Breeding Territory	Habitat Restoration	Temporary	0.50
Marginally Suitable for Nesting and Foraging	Vegetation and Sediment Removal	Permanent	8.00
Marginally Suitable for Nesting and Foraging	Vegetation and Sediment Removal	Temporary	1.89
Marginally Suitable for Nesting and Foraging	Habitat Restoration	Temporary	0.50 to 1.50 (Mining Pit) 1.00 to 1.50 (Johnson Field)
		TOTAL IMPACTS	12.69 to 14.19
SOUTHWESTERN WILLOW FLYCATCHER			
Marginally Suitable Non-Nesting Habitat	Vegetation and Sediment Removal	Permanent	8.80
Marginally Suitable Non-Nesting Habitat	Vegetation and Sediment Removal	Temporary	1.89
Marginally Suitable Non-Nesting Habitat	Habitat Restoration	Temporary	2.00 to 3.00
		TOTAL IMPACTS	12.69 to 14.19

The impacts to potential least Bell's vireo breeding territories that may have been occupied in 2015 and marginally suitable nesting and foraging habitat that are expected under this permit application include:

- Permanent impacts to approximately 0.80 acre of habitat that was may have been part of a least Bell's vireo breeding territory in 2015 as a result of vegetation and sediment removal;
- Permanent impacts to approximately 8.00 acres of marginally suitable habitat as a result of vegetation and sediment removal;
- Temporary impacts to approximately 1.89 acres of marginally suitable habitat as a result of vegetation and sediment removal;
- Temporary impacts to approximately 0.50 acres of habitat that may have been part of a least Bell's vireo breeding territory in 2015 as a result of habitat restoration activities; and,
- Temporary impacts to approximately 1.5 to 3.0 acres of marginally suitable habitat as a result of habitat restoration activities.

The impacts to potential migratory habitat for the southwestern willow that are expected under this permit application include:

- Permanent impacts to approximately 8.80 acres as a result of vegetation and sediment removal;
- Temporary impacts to approximately 1.89 acres as a result of vegetation and sediment removal; and,

- Temporary impacts to approximately 2.0 to 3.0 acres as a result of habitat restoration activities.

The avoidance and mitigation measures described below include the mitigation measures from the Project EIR and avoidance and minimization measures provided by the CDFW and USFWS.

Mitigation measures included in the EIR address minimizing and avoiding impacts to sensitive biological resources during the construction and maintenance phases of the Project. The mitigation measures from the EIR include;

- Biological monitoring during construction
- Worker education
- Pre-construction surveys for sensitive species
- Nesting bird surveys and the establishment of nest buffers
- Pre-construction surveys for bats
- Restoration of Riversidean alluvial fan sage scrub
- Pre-construction tree survey
- Habitat restoration, enhancement, and exotic plant removal to satisfy Section 401, Section 404, and Streambed Alteration Agreement conditions

In addition, protection measures were suggested during Informal Consultation between ACOE and USFWS. These measures, which provide more detailed recommendations related to avoiding and minimizing impacts to federally and state-listed species have been incorporated into APMs and include;

- An increased frequency of nesting bird surveys and protection measures if least Bell's vireos are detected
- Establishment of a 300-foot buffer around active nests
- Noise monitoring during the least Bell's vireo breeding season
- Implementation of the above measures during the annual maintenance activities if they occur during the breeding season

Finally, additional protection measures have been included in this ITP application to further avoid and/or minimize potential impacts to state-listed birds and their habitat. These include:

- Trail closures within suitable habitat
- Public education
- Periodic trash removal

Project Design

Measures designed to avoid and minimize impacts to jurisdictional waters, buffer habitat, and habitat for listed species of wildlife, have been included in the Project design. These measures include selection of the Environmentally Superior Alternative (Alternative 3, Configuration D) in the Project EIR, which avoids impacts to existing jurisdictional waters and buffer habitat located in the western portion of the Reservoir. Alternative 3, Configuration D affects the least amount of habitat of all the action alternatives, while still achieving Project objectives. A description of Alternative 3, Configuration D is included in Section 4.6 in the Final EIR.

Applicant-Proposed Measures

APMs are avoidance and minimization measures built into the project description that reduce or eliminate potential project impacts to sensitive biological resources. Table 10 presents the APMs that are relevant to the biological resources identified in the Project area.

Table 10. Applicant Proposed Measures – Biological Resources

ID	Description
APM-1	Pre-construction nesting bird surveys will be conducted prior to vegetation removal: a) One week prior to removal, a minimum of three surveys will be conducted on separate days to determine least Bell's vireo nesting status within 300 feet of project area: one survey conducted one day prior. b) If no nesting activities, work may commence. c) If least Bell's vireo nesting is observed, nest monitoring will be initiated and no work will occur within 300 feet of nest until nest succeeds or fails, as determined by qualified biologist, and CDFW agrees work may proceed. (1) Biological monitor will be a trained ornithologist with at least 40 hours of supervised experience locating vireo and mapping locations in the field. (2) Surveyors and monitors must be approved by CDFW; resumes must be submitted at least 7 days prior to initiation of surveys.
APM-2	Periodic nesting bird surveys will be conducted in adjacent habitat during construction activities occurring during the breeding bird season. Active nests will receive a minimum 300-foot no work buffer until nest succeeds or fails.
APM-3	Noise levels will be monitored during construction activities occurring during the vireo breeding season (March 15 through August 31): a) Construction noise levels will be restricted to below 60 dBA Leq hourly at 100 feet from areas occupied by the least Bell's vireo. b) Twice weekly surveys for the least Bell's vireo will be conducted by the biological monitor in areas of suitable habitat within 500 feet of proposed construction activities to determine the presence of least Bell's vireo nest building activities, egg incubation activities, or brood rearing activities. (3) If least Bell's vireo are present, noise monitoring will be conducted weekly and must demonstrate that noise levels are less than 60 dBA Leq hourly at specified monitoring locations, no less than 100 feet from the active nest(s) as determined by the biological monitor. (4) Weekly survey reports will be prepared during the nesting season and sent electronically to CDFW each week that least Bell's vireo are detected. The weekly reports will identify the location of least Bell's vireo nest sites and territories within 500 feet of the project.
APM-4	Annual maintenance and mitigation implementation activities will be scheduled outside of the least Bell's vireo breeding season. However, if maintenance activities need to be conducted during the breeding season, then APM BIO-1, -2, and -3 will be conducted for annual maintenance activities as well.
APM-5	Project boundaries will be clearly marked to prevent construction activities from disturbing habitat outside the Project limits.
APM-6	Recreational trails occurring within the interior of the project site will be closed and restored as riparian habitat within the mitigation areas.
APM-7	Public outreach and education efforts will be performed prior to, during, and following the project to inform the public about trail closures and the purpose of benefitting sensitive habitats and special-status species present at the project site.
APM-8	Trash removal will be conducted on a periodic basis and where necessary in the mitigation areas.

Final EIR Mitigation Measures

The following mitigation measures, taken directly from the Project EIR, will also be implemented to avoid and minimize impacts to state- and federally listed species.

MM BIO-1: A qualified biological monitor shall be present during initial ground- or vegetation-disturbing project-related activities to provide measures and monitor for wildlife in harm's way. This includes initial ground- or vegetation-disturbing project-related activities at the annual start of each year of sediment removal or maintenance activities. Following initial project-related activities, a qualified monitoring biologist shall be present as necessary to maintain the implemented protection measures and monitor for additional species in harm's way. These protection measures shall include, as appropriate: redirecting wildlife, identifying areas that may require exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Any captured species shall be relocated to adjacent appropriate habitat that is contiguous to adjacent habitat and not impacted by project-related disturbance activities.

MM BIO-2: Within 90 days prior to ground-disturbing activities, a sensitive species educational briefing shall be conducted by a qualified biologist for construction personnel. The biologist will identify all sensitive resources that may be encountered onsite, and construction personnel will be instructed to avoid and report any sightings of sensitive species to LACFCD or the monitoring biologist. Educational briefings shall be repeated annually for the duration of the sediment removal.

MM BIO-3: Within 90 days prior to ground-disturbing activities, a pre-construction survey shall be conducted by a qualified biologist for the presence of any sensitive species in harm's way, including coast range newt, the southwestern pond turtle, and the two-striped garter snake. If sensitive species are observed in harm's way, the qualified biologist will develop and implement appropriate protection measures for that species. These protection measures shall include, as appropriate: redirecting the species, constructing exclusionary devices (e.g., fencing), or capturing and relocating wildlife outside the work area. Pre-construction surveys shall be repeated annually for the duration of the sediment removal. Observations of special status species made during these surveys shall be recorded onto a California Natural Diversity Database (CNDDB) field data sheet and submitted to CDFW for inclusion into the CNDDB.

MM BIO-4: LACFCD, in consultation with a qualified biologist, will employ bird exclusionary measures (e.g., mylar flagging) prior to the start of bird breeding season to prevent birds nesting within established boundaries of the project. Prior to commencement of sediment removal activities within bird breeding season (March 1-August 31), a pre-construction bird nesting survey shall be conducted by a qualified biologist for the presence of any nesting bird within 300 feet of the construction work area. The surveys shall be conducted 30 days prior to the disturbance of suitable nesting habitat by a qualified biologist with experience in conducting nesting bird surveys. The surveys shall continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. Pre-construction surveys shall be repeated annually for the duration of the sediment removal. If an active nest is found, the qualified biologist will develop and implement appropriate protection measures for that nest. These protection measures shall include, as appropriate, construction of exclusionary devices (e.g., netting) or avoidance buffers. The biologist shall have the discretion to adjust the buffer area as appropriate based on the proposed construction activity, the bird

species involved, and the status of the nest and nesting activity; but shall be no less than 30 feet. Work in the buffer area can resume once the nest is determined to be inactive by the monitoring biologist.

MM BIO-5: Within 30 days prior to commencement of vegetation or structure removal activities, a pre-construction bat survey shall be conducted by a qualified biologist for the presence of any roosting bats. Acoustic recognition technology shall be used if feasible and appropriate. If either a bat maternity roost or hibernacula (structures used by bats for hibernation) are present, a qualified biologist will develop and implement appropriate protection measures for that maternity roost or hibernacula. These protection measures shall include, as appropriate: safely evicting non-breeding bat hibernacula, establishment of avoidance buffers, or replacement of roosts at a suitable location. These measures shall also include as appropriate:

-To the extent feasible, trees that have been identified as roosting sites shall be removed or relocated between October 1 and February 28.

-When trees must be removed during the maternity roost season (March 1 to September 30), a qualified bat specialist shall conduct a pre-construction survey to identify those trees proposed for disturbance that could provide hibernacula or nursery colony roosting habitat for bats.

-Trees identified as potentially supporting an active nursery roost shall be inspected by a qualified biologist no greater than 7 days prior to tree disturbance to determine presence or absence of roosting bats.

-Trees determined to support active maternity roosts will be left in place until the end of the maternity season (September 30).

-If bats are not detected in a tree, but the qualified biologist determined that roosting bats may still be present, trees shall be removed as follows:

- Pushing the tree down with heavy machinery instead of felling the tree with a chainsaw.
- First pushing the tree lightly 2 to 3 times with a pause of 30 seconds in between each nudge to allow bats to become active, then pushing the tree to the ground slowly.
- Allowing the tree to remain in place for 24 to 48 hours until inspected by the qualified biologist for presence or absence of roosting bats.

-The qualified biologist shall document all bat survey, monitoring, and protection measure activities and prepare a summary report for LACFCD.

MM BIO-6: Riversidean Alluvial Fan Sage Scrub habitat shall be restored and/or enhanced at a 1:1 ratio by acreage. Areas shall be mapped using aerial photographs.

MM BIO-7: Within 90 days prior to ground-disturbing activities, a qualified biologist shall conduct a tree survey within the project footprint, to identify trees that will be removed or potentially affected by the Proposed Project and trees that can be avoided. LACFCD will replace trees that cannot be avoided. The replacement is expected to be up to 1:1 by acreage. The biological monitor shall implement measures to protect the root zone of oak trees that may be impacted immediately adjacent to the project site and along access roads.

MM BIO-8: A combination of onsite and offsite habitat restoration, enhancement, and exotic removal shall be implemented by LACFCD at a 1:1 ratio for impacted sensitive habitat and jurisdictional waters. Habitat restoration/enhancement shall include use of willow cuttings and exotic species removal. Nonnative, weedy habitats within the basin shall be utilized whenever possible as mitigation sites. This mitigation measure shall be monitored for success for five years following implementation. A report of the monitoring results shall be submitted annually, during the five years following implementation, to resources agencies as required by the Section 401 Certification, Section 404 permit, and a Streambed Alteration Agreement.

Avoidance, Minimization, and Mitigation Measures Fully Mitigate Impacts to State-Listed Species

The applicant proposed measures, which were developed with the assistance of the USFWS and CDFW, combined with the mitigation measures from the Project EIR provide a comprehensive list of avoidance, minimization, and mitigation measures that will fully mitigate impacts to least Bell's vireo and southwestern willow flycatcher. The proposed mitigation plan is summarized below and a detailed plan will be submitted to CDFW for review.

Mitigation for the permanent and temporary loss of least Bell's vireo and southwestern willow flycatcher habitat will be implemented through a combination of onsite habitat creation, revegetation, and enhancement (Table 11). Figure 8 shows the locations and lists the acreages of each of the mitigation sites that are proposed to fully mitigate for impacts to least Bell's vireo and non-nesting southwestern willow flycatchers.

Table 11. Habitat Restoration in Mitigation Areas for the ITP

Habitat Restoration Type	Mitigation Site Identification	Planned Activities	Mitigation Site Acreage
Creation	Johnson Field (DG-W-1)	Remove sediment, contour to match adjacent areas, plant riparian woodland/scrub	3.44
Revegetation	DG-4A	Remove monotypic areas of pepper weed and other invasive plants and weeds, plant riparian woodland/scrub	5.59
Revegetation	DG-2A, DG-2B, DG-4C, DG-5	Remove weeds from disturbed areas and replant with riparian woodland/scrub	1.73
Revegetation	DG-7 and DG-8	Replant temporary impact areas with riparian woodland/scrub	1.54
Enhancement and Revegetation	Mining Pit (DG-W-2)	Re-contour a portion of the mining pit to improve drainage and replant with riparian woodland/scrub	2.13
Enhancement and Revegetation	DG-2, DG-4, DG-SF-1, DG-SF-2, DG-W-2 Outlet	Remove nonnative and invasive plants and weeds, reconfigure drainages, and replant with riparian woodland/scrub	26.91
		TOTAL	**41.34**

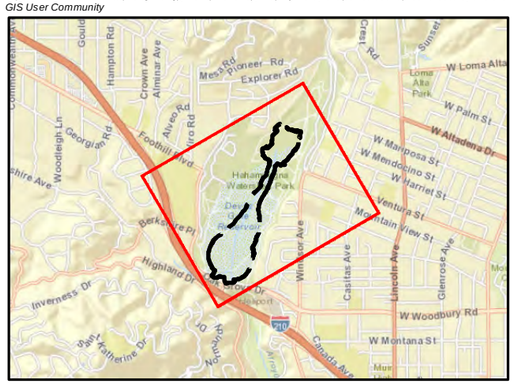
Figure 8.
Devil's Gate Incidental Take Permit Mitigation Areas

Map Features

- Initial Project Footprint [1]
- Annual Maintenance Footprint [1]
- Incidental Take Permit Mitigation Area
- Access Roads[1]

Mitigation Areas (within Incidental Take Permit Mitigation Area)

- DG-2 (4.96 acres)
- DG-2A (0.10 acres)
- DG-2B (0.38 acres)
- DG-4 (21.73 acres)
- DG-4A (5.59 acres)
- DG-4B (0.54 acres)
- DG-4C (0.45 acres)
- DG-5 (0.26 acres)
- DG-7 (Temp Impacts) (0.87 acres)
- DG-8 (Temp Impacts) (0.67 acres)
- DG-SF-1 (0.06 acres)
- DG-SF-2 (0.03 acres)
- DG-W-1 (3.44 acres)
- DG-W-2 (2.13 acres)
- DG-W-2 (Outlet) (0.13 acres)



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\Mitigation_Plan\HMP\Devils_Gate_v1\DG_Mitigation_Areas_ITP_20160210.mxd (JDS/MAG) mguidry 5/9/2016

2014-003.008 Devils Gate Mitigation Plan

Scale in Feet
0 600

Photo Source: NAIP 2014
[1] LADPW
[2] ECORP and Chambers

Map Date: 5/9/2016

For the purposes of this ITP, approximately 41.34 acres of suitable habitat will be preserved and managed for the long-term for least Bell's vireos and migrating southwestern willow flycatchers. Beneficial impacts to both least Bell's vireo and southwestern willow flycatcher will occur as a result of the preservation and the associated habitat restoration and enhancement activities that will be conducted in the preserved areas to create additional and higher functioning habitat. The areas subject to habitat restoration activities include:

- Creation of approximately 3.44 acres of willow riparian woodland/scrub in Johnson Field where it does not currently exist (DG-W-1);
- Revegetation of approximately 5.59 acres of areas where monotypic patches of pepper weed and other nonnative plant species will be removed and replaced with riparian woodland/scrub (DG-4);
- Revegetation of approximately 1.73 acres of areas disturbed by humans where nonnative plants and weeds will be removed and replaced with riparian woodland/scrub (DG-2A. DG-2B, DG-4B, DG-4B, and DG-5);
- Revegetation of approximately 1.54 acres of areas temporarily disturbed by vegetation and sediment removal will be planted with riparian woodland/scrub (DG-7 and DG-8);
- Enhancement and revegetation of approximately 2.13 acres in the old mining pit where the area will be re-contoured and planted with riparian woodland/scrub (DG-W-2); and,
- Enhancement and revegetation of riparian woodland/scrub in approximately 26.91 acres where nonnative and invasive plant species will be removed from the understory and replaced with native plant species (where appropriate) (DG-2, DG-4, DG-SF-1, DG-SF-2, DG-W-2 Outlet).

The habitat restoration activities would be conducted in accordance with a Habitat Restoration and Mitigation Plan (HRMP) that will be developed for the Project. The composition of the replacement plantings in the restoration and enhancement areas will be designed to develop habitat that would support the breeding and foraging activities of a variety of sensitive riparian species, including the least Bell's vireo and southwestern willow flycatcher. The HRMP will include methods for site preparation, measures to control exotic vegetation on site before and after planting, planting methods, plant and seed palettes, irrigation methods, maintenance requirements, and performance standards. The HRMP will also outline the monitoring and reporting requirements, schedule, adaptive management measures, and long-term management. These specifics of the habitat restoration program will be developed and defined during the detailed Project design phase.

Implementation of the habitat restoration activities will begin in the fall of 2016 with the removal of nonnative and invasive plant debris throughout the mitigation areas. This will be conducted in order to efficiently begin herbicide applications and mechanical removal of nonnative plants that germinate after the debris is removed. Portions of the mitigation areas may be planted as early as the fall/winter of 2016 in order to reduce the temporal loss associated with the construction Project. The timing of the implementation in the restoration areas will be determined during the detailed Project design phase.

Successful implementation of the proposed mitigation for impacts to habitat for the least Bell's vireo and southwestern willow flycatcher will result in an increase in quantity and quality of

habitat for these species in Devil's Gate Reservoir and will ensure no net loss of habitat value for least Bell's vireo and willow flycatcher.

(9) Monitoring Plan (CCR § 783.2(a)(9))

Monitoring efforts for the implementation of the minimization and mitigation measures is outlined in detail in the Habitat Restoration Plan; however, a summary of the measures and reporting requirements is included below. Tables 12 and 13 contain a summary and brief timeline of the mitigation measures from the EIR and APMs from coordination efforts with USFWS and CDFW, respectively.

Table 12. Biological Resources Mitigation Measures from the EIR

Mitigation Measure No.	Summarized Mitigation Measure	Source	Implementation Schedule	Responsible Oversight Party
BIO-1	Biological monitoring	EIR	During initial and annual vegetation/sediment removal and during habitat restoration	Qualified Biologist
BIO-2	Sensitive species worker educational briefing	EIR	Pre-construction	Permittee and Qualified Biologist
BIO-3	Pre-construction survey for sensitive species	EIR	Pre-construction	Qualified Biologist
BIO-4	Pre-construction nesting bird survey and installation of bird exclusionary measures	EIR	During initial and annual vegetation/sediment removal and during habitat restoration	Permittee and Qualified Biologist
BIO-5	Pre-construction bat survey and bat protection measures	EIR	Pre-construction	Permittee and Qualified Biologist
BIO-6	Restoration of Riversidean alluvial fan sage scrub habitat	EIR	Post-sediment removal in upstream temporary impact area	Permittee and Qualified Biologist
BIO-7	Pre-construction tree survey and tree protection/replacement measures	EIR	Pre-construction and during habitat restoration	Permittee and Qualified Biologist
BIO-8	Perform onsite and offsite habitat restoration, enhancement, and exotic removal	EIR	Begins concurrently with Project impacts	Permittee and Qualified Biologist

Table 13. Applicant Proposed Measures

Mitigation Measure No.	Summarized APM	Source	Implementation Schedule	Responsible Oversight Party
APM BIO-1	Pre-construction nesting bird surveys	2081	During initial and annual vegetation/sediment removal and during habitat restoration	Qualified Biologist
APM BIO-2	Periodic nesting bird surveys conducted during construction activities	2081	During initial and annual vegetation/sediment removal and during habitat restoration	Qualified Biologist
APM BIO-3	Noise monitoring	2081	During initial and annual vegetation/sediment removal	Qualified Biologist
APM BIO-4	Performing annual maintenance and mitigation implementation activities outside of the least Bell's vireo breeding season	2081	During initial and annual vegetation/sediment removal and during habitat restoration	Permittee and Qualified Biologist
APM BIO-6	Project boundaries will be clearly marked	2081	During initial and annual vegetation/sediment removal and during habitat restoration	Permittee
APM BIO-7	Closing and restoring recreational trails within the mitigation areas	2081	During initial and annual vegetation/sediment removal and during habitat restoration	Permittee
APM BIO-8	Public outreach and education	2081	Periodically for the duration of the permit	Permittee
APM BIO-9	Trash removal from mitigation areas	2081	Periodically during habitat restoration activities	Permittee

A notification memorandum will be submitted to CDFW following the completion of initial compensatory mitigation activities (i.e., earthwork, planting). The following information will be included:

- Date(s) all compensatory mitigation construction activities were completed;
- Modifications (if any) to the originally-approved schedule for future mitigation monitoring, implementation, and reporting pursuant to final approved mitigation plan;
- Summary of compliance status with each special condition of associated permits or verification (including any noncompliance previously having occurred or currently occurring and corrective actions taken to achieve compliance);
- Photographs of the habitats constructed at the compensatory mitigation site; and
- One copy of "as built" drawings for the entire compensatory mitigation project prepared in accordance with SPD Map and Drawing Standards.

Annual reports will be prepared following mitigation implementation and, at a minimum, will include the following information:

- Description of restoration activities;
- Description of maintenance activities (e.g., nonnative plant control, irrigation, trash removal);
- Current site conditions (e.g., percent survival, percent cover, hydrology, methods used to assess parameters);
- Current status and progress of the site with regard to meeting all of the mitigation success criteria;
- Any problems or issues noted during the monitoring and steps taken to address them;
- Wildlife species compendium;
- Coordination with agencies; and
- Photo documentation.

Upon achieving established mitigation success criteria, the restoration specialist will prepare a notification memorandum for the County and regulatory agencies.

(10) Habitat Management Land Acquisition and Funding Assurances and Security Assurances (CCR § 783.2(a)(10))

The funding source that the Los Angeles County Department of Public Works will utilize to ensure the funds are available to implement the minimization and mitigation measures will be determined and agreed upon with CDFW. As a public agency, LACDPW cannot enter into the typical funding arrangement, such as an endowment fund, that would typically be used to ensure monies are available to implement minimization and mitigation measures if LACDPW were to default on the project. LACDPW has the ability to budget the necessary funding to conduct the minimization and mitigation measures on an annual basis for both the short-term and long-term activities.

The Treasurer and Tax Collector (TTC) and the Auditor-Controller Accounting Division (A-C Accounting) provided information regarding an option that LACDPW may have to fulfill habitat mitigation requirements in the event that LACDPW defaults on the mitigation project. TTC and A-C Accounting indicated that a trust fund could potentially be set up for these funds; however, this option would require Board approval, and essentially, the money would be moved from one account to another. CDFW would not have direct access to the funds themselves, but a check could be issued if necessary. The details of the actual funding mechanism that will be used will be clarified and agreed upon with CDFW.

Long-term protection of the mitigation site identified in this ITP application will be determined and agreed upon with CDFW. LACDPW is currently working with the City of Pasadena to obtain assurances that the flood control easement held by LACDPW, the open space designation of the lands within the Reservoir in the Hahamongna Watershed Park Master Plan, and signed documentation from the City of Pasadena will assure the long-term protection of the mitigation lands.

(11) Compliance with California Environmental Quality Act

California Environmental Quality Act (CEQA) compliance for the Project is complete. The Notice of Determination and proof of payment of filing fees have been included as Appendix G. A summary of the CEQA documentation is as follows:

In October 2011, an Initial Study and Notice of Preparation was presented for the Project and in November 2013, a Draft EIR was released for public review and comments. The Final EIR, which addressed comments from the Draft EIR was released in October 2014 and was certified in November 2014.

(12) Certification (CCR § 783.2(a)(11))

I certify that the information submitted in this application is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to suspension or revocation of this permit and to civil and criminal penalties under the laws of the State of California.

Christopher Stone

Name

May 24, 2016

Date

(13) Literature Cited and References

[CDFW] California Department of Fish and Wildlife. 2016. California Natural Diversity Database RareFind for Agua Dulce USGS 7.5-Minute Quadrangle California. Sacramento, CA, CDFW Biogeographic Data Branch.

[Chambers] Chambers Group, Inc. 2010. Biological Technical Report for the Devil's Gate Reservoir Project Site in the City of Pasadena, Los Angeles County, California. Prepared for County of Los Angeles, Department of Public Works.

Chambers. 2013. Focused Protocol Surveys for Least Bell's Vireo at the Devil's Gate Reservoir, Los Angeles County, California. Prepared for County of Los Angeles, Department of Public Works.

Chambers. 2014. Focused Survey Report for Least Bell's Vireo and Southwestern Willow Flycatcher at the Devil's Gate Reservoir, Los Angeles County, California. Prepared for County of Los Angeles, Department of Public Works.

Chambers. 2015. Focused Survey Report for Western Yellow-Billed Cuckoo at the Devil's Gate Reservoir, Los Angeles County, California. Prepared for County of Los Angeles, Department of Public Works.

Craig, D. and P. L. Williams. 1998. Willow Flycatcher (*Empidonax traillii*). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

Kus, B.E., B.L. Peterson, and D.H. Deutschman, 2008. A multiscale analysis of nest predation on Least Bell's Vireos (*Vireo bellii pusillus*). Auk 125:277-284.

Kus, B.E. and M.J. Whitfield. 2005. Parasitism, Productivity, and Population Growth: Response of Least Bell's Vireos (*Vireo belli pusillus*) and Southwestern Willow Flycatchers (*Empidonax traillii extimus*) to Cowbird (Molothrus spp.) Control. Ornithological Monographs 2005(57): 16-27.

[USFWS] U.S. Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Least Bell's Vireo, Final Rule. Federal Register 59(22): 4845-4867.

USFWS. 1998. Draft Recovery Plan for the Least Bell's Vireo. U.S. Fish and Wildlife Service, Portland, OR. 139 pp.

USFWS. 2002. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Final Recovery Plan. Albuquerque, NM. 446 pp.

USFWS. 2006. Least Bell's Vireo (*Vireo bellii pusillus*) 5-year Review Summary and Evaluation. Carlsbad Fish and Wildlife Office, Carlsbad, CA. September. 27 pp.

USFWS. 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher, Final Rule. Federal Register 78(2): 344-534.

USFWS. 2014. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) 5-year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Phoenix, AZ. 104 pp.

The Hydrology Manual (January 2006) can be viewed here:
http://dpw.lacounty.gov/wrd/publication/engineering/2006_Hydrology_Manual/2006%20Hydrology%2
0Manual-Divided.pdf

The Sedimentation Manual (March 2006) can be viewed here:
http://dpw.lacounty.gov/wrd/publication/engineering/2006_sedimentation_manual/Sedimentation%20
Manual-Second%20Edition.pdf

APPENDIX A

2010 Biological Technical Report for the Devil's Gate Reservoir Project Site

BIOLOGICAL TECNHICAL REPORT FOR THE DEVIL'S GATE RESERVOIR PROJECT SITE IN THE CITY OF PASADENA, LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Valerie De La Cruz
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
Water Resources Division
Financial and Special Projects Section
900 South Fremont Avenue
Alhambra, California 91803

Prepared by:

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302 Brookside Avenue
Redlands, California 92373
(909) 335-7068

November 2010

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SECTION 1.0 – INTRODUCTION

Chambers Group, Inc. (Chambers Group) was retained by Los Angeles County Department of Public Works (LACDPW) to conduct a literature review and reconnaissance-level survey for the proposed Devil's Gate Dam and Reservoir Postfire Sediment Removal Project. All sensitive species identified with a potential for occurrence on the Project site were included in the habitat assessment. The site was also assessed for the potential to support jurisdictional waters.

The Survey Area includes the Approximate Excavation Footprint and a buffer so impacts to adjacent resources could be analyzed. The proposed project will not impact the entire Survey Area. The purpose of the biological reconnaissance survey is to document the results of the habitat assessment and sensitive species focused surveys, to help determine the potential for significant impacts.

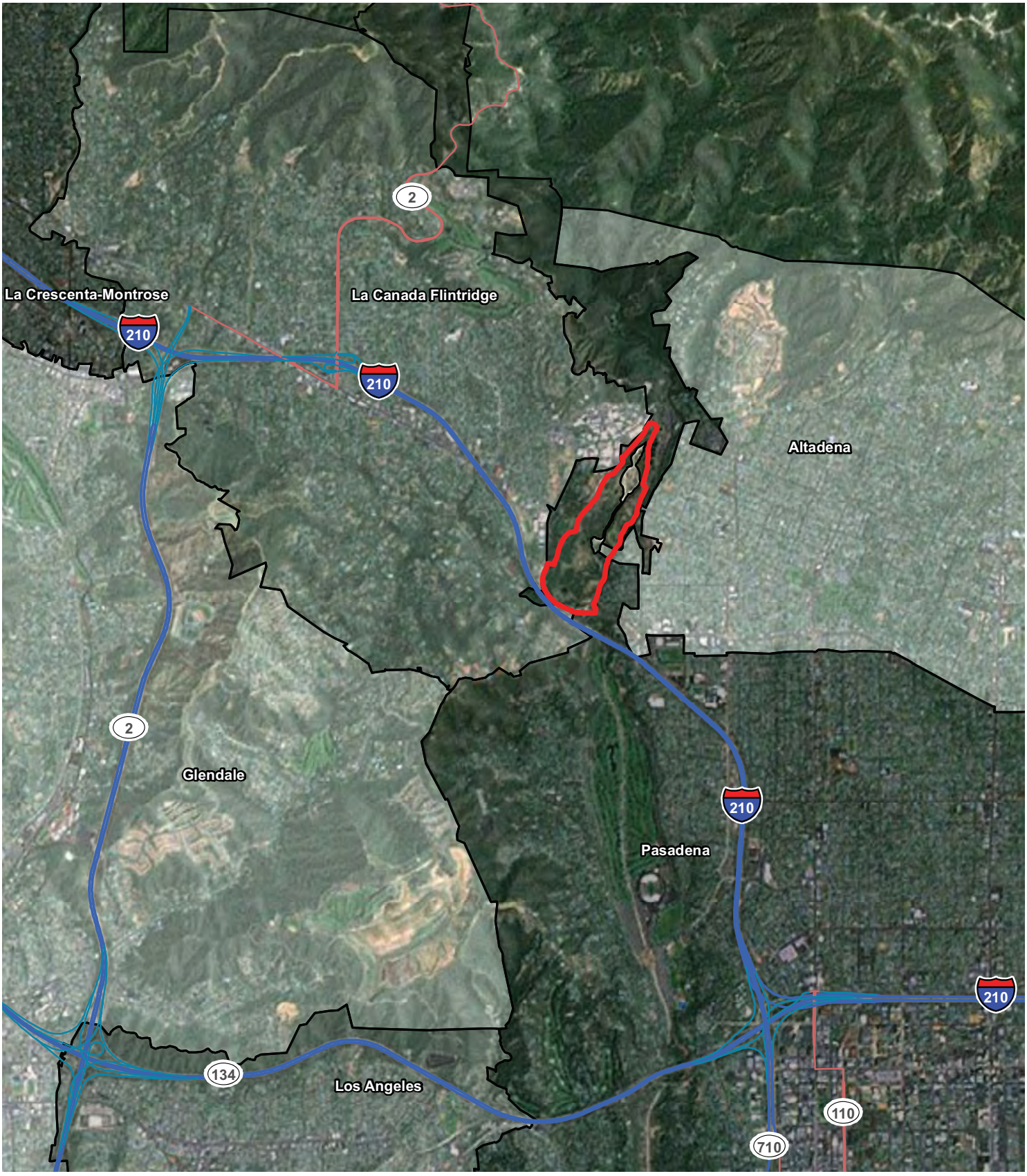
Following the biological reconnaissance-level survey, Chambers Group conducted focused surveys for eight sensitive plant species: Nevin's barberry, Plummer's mariposa lily, Parry's spineflower, slender-horned spineflower, mesa horkelia, white rabbit-tobacco, Parish's gooseberry, and Greata's aster; and one sensitive wildlife species: least Bell's vireo.

1.1. PROJECT LOCATION

Devil's Gate Dam and Reservoir is situated on the south facing slopes of the San Gabriel Mountains. The Project site is located, north of Interstate 210, west of North Arroyo Blvd., and east of Oak Grove Drive, in the City of Pasadena, Los Angeles County, California (Figure 1). The site is within the U.S. Geological Survey (USGS) *Pasadena,* California 7.5-minute topographic quadrangle in Section 7 of Township 1 north, and Range 12 west (Figure 2). The elevation range at the site is between approximately 1,000 and 1,300 feet above mean sea level (amsl). The reservoir is within the Hahamongna Watershed and is a tributary to the Arroyo Seco, which drains into the Los Angeles River.

1.2. PROJECT DESCRIPTION

The 2009 station fire was the 10th largest fire in California since 1933 and burned over 160,000 acres before containment. Approximately 68 percent of the watershed tributary to Devil's Gate Reservoir was burned, leaving vast areas of the San Gabriel Mountains denuded and sediment deposition inevitable. On average a watershed will take five years or more to recover from a fire. During this time, increased amounts of debris production are anticipated from the denuded ground surface. Sediment removal is necessary to maintain an acceptable level of flood protection to mitigate the significant risk of severe flooding in the communities downstream of the dam. LACDPW is preparing a major sediment removal project for Devil's Gate Reservoir to remove the accumulated sediment and make room for future sedimentation that will undoubtedly occur. The proposed project will remove 1,671,000 CY, of sediment debris from Devil's Gate Reservoir. This area of impact is defined as the Approximate Excavation Footprint (Figure 3). Construction is scheduled to occur as early as Summer 2011.



Legend

Survey Area

City Limit

N
W E
S

0 0.5 1 Miles

Figure 1
Project Vicinity Map

Chambers Group Inc.

Legend

Survey Area

N
W E
S

0 500 1,000 Feet

Figure 2
Project Location Map

Chambers Group Inc.

SECTION 2.0 – METHODOLOGY

2.1. LITERATURE REVIEW

Prior to performing the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the California Natural Diversity Database managed by the California Department of Fish and Game (CDFG 2010) and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2010) were reviewed for the quadrangle containing and surrounding the Survey Area (i.e. *Pasadena*, California USGS 7.5 minute quadrangles). These databases contain records of reported occurrences of federal- or state-listed as endangered or threatened species, proposed endangered or threatened species, former Federal Species of Concern (FSC), California Species of Special Concern (CSC), or otherwise sensitive species or habitat that may occur within or in the immediate vicinity of the Survey Area.

2.2. SOILS

Before conducting the surveys, soil maps for Los Angeles County were referenced online to determine the types of soil found on the site. Soils were determined in accordance with categories set forth by the U.S. Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2009).

2.3. BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

The field survey was conducted in the Survey Area in order to identify any potential for occurrence of sensitive species, vegetation communities, or habitats to support sensitive wildlife species. The survey was conducted on foot throughout the Survey Area between 0815 and 1320 hours on May 27, 2010. Photographs of the Survey Area were recorded to document existing conditions. Weather conditions during the survey included temperatures ranging from approximately 62 to 64 degrees Fahrenheit with 100 percent cloud cover and a slight drizzle in the morning. Chambers Group biologists Linette Lina and Saraiah Skidmore conducted the general reconnaissance survey.

2.3.1 Vegetation

All plant species and soil types observed onsite were noted. Plant communities in the Survey Area were identified, qualitatively described, and mapped onto an aerial photograph. Plant communities were determined in accordance with the categories set forth in Holland (1986) or Sawyer and Keeler-Wolf (1995). Plant nomenclature follows that of *The Jepson Manual: Higher Plants of California* (Hickman 1993). A comprehensive list of the plant species observed during the survey is presented in Appendix A.

2.3.2 Wildlife

All wildlife and wildlife sign observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (undisturbed native habitat, wildlife trails, etc.) or in habitats with the potential to support state- and/or federal-listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site. A list of the wildlife species observed during the site visit is included as Appendix B.

2.3.3 USACE, SWRQCB, and CDFG Preliminary Jurisdictional Assessment

Prior to beginning the field preliminary delineation, a 50-foot-to-the-inch scaled topographic map, scaled aerial photograph, and the *Pasadena* 7.5-minute USGS topographic quadrangle map were examined to determine the locations of potential areas of U.S. Army Corps of Engineers (USACE), California State Water Resources Quality Control Board (SWRQCB), and/or California Department of Fish and Game (CDFG) jurisdiction. Chambers Group biologists examined the Survey Area to identify potential USACE jurisdiction pursuant to Section 404 and 401 of the Clean Water Act and CDFG jurisdiction pursuant to Section 1602 of the State of California Fish and Game Code. Suspected jurisdictional areas were field checked for the presence of riparian vegetation, definable channels, and Ordinary High Water Marks (OHWMs). The lateral extent of a jurisdictional drainage can be measured in several ways depending on the particular situation. The outer edge of riparian vegetation is used as the line of demarcation between riparian and upland habitats and is, therefore, an identifiable boundary of the lateral extent of a jurisdictional drainage. On smaller streams or dry washes with little or no riparian habitat, the uppermost bank extents may be used to mark the jurisdictional drainage

2.4. SENSITIVE SPECIES FOCUSED SURVEYS

2.4.1 Focused Plant Surveys

Chambers Group conducted the reconnaissance-level survey in the Survey Area on May 27, 2010. Based on the literature search and reconnaissance survey, two of the sensitive plants are federal and state-listed as endangered species, and were determined to have potential for occurrence onsite. An additional six otherwise sensitive (CNPS-listed) species were also determined to have potential for occurrence.

A sensitive species is considered to potentially occur in a project area if its known geographic range includes part of the project area or an adjacent USGS 7.5-minute quadrangle and/or if the general habitat or environmental conditions (e.g., soil type, etc.) required for the species are present. The criteria for evaluating a species potential for occurrence (PFO) on a site is presented in Table 1.

Table 1
Criteria for Evaluating Sensitive Plant Species Occurrences

PFO	CRITERIA
Absent:	Species was not observed during focused surveys conducted at an appropriate time for identification of the species, or species is restricted to habitats or environmental conditions that do not occur within the site.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the site, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the site (approximately 5 miles) and marginal habitat exists on the site, or the habitat requirements or environmental conditions associated with the species occur within the site, but no historical records exist within 5 miles of the site.
High:	Both a historical record exists of the species within the site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the site.
Present:	Species was detected within the site at the time of the survey.

Because potential for sensitive plant species to occur onsite existed, focused surveys were recommended and conducted within the Survey Area. Because the sensitive plant species with potential to occur have two different flowering periods, two separate focused plant surveys were conducted. Chambers Group botanists Rebecca Alvidrez, Nichole Cervin, Heather Clayton, Ana Hernandez, Tracy Valentovich, and Jeremy Smith conducted the first focused survey on June 28 through June 30, 2010. Heather Clayton, Kun Liu, Fern Hoffman, and Saraiah Skidmore conducted the second focused survey on August 24, 2010. The surveys consisted of walking the entire Survey Area and noting all plant species. A comprehensive list of the plant species observed during the surveys is presented in Appendix A.

To ensure the detection of rare plants, the botanists were organized into a single horizontal line and were spaced apart to form adjacent belt transects such that each botanist was surveying 15 feet on each side of their own transect, or more where visibility was high. The edge of each transect abutted the adjacent transect, leaving no gaps between each belt, for at least 100 percent coverage throughout all suitable habitats onsite. Each botanist walked in the direction of the agreed upon endpoint within the individual belt transect in a slightly meandering pattern for maximum and overlapping coverage. When suitable microhabitats were encountered or where small plants resembling sensitive species were present, the botanists would stop and carefully scan the microhabitat to positively identify each plant.

Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Hickman ed. (1993). Plant nomenclature follows that of *The Jepson Manual* (1993).

2.4.2 Focused Least Bell's Vireo Surveys

Surveys for least Bell's vireo were performed according to modified USFWS guidelines (USFWS 2001). Constraints prevented surveys from being conducted early in the season; therefore, in order to complete all surveys during the 2010 breeding season, surveys were conducted from May through August, approximately seven days apart. All surveys were conducted during favorable weather conditions.

Chambers Group biologists Linette Lina and Mike McEntee conducted eight protocol surveys (May 27; July 7, 15, 22, and 29; August 5, 12, and 19). Surveys were conducted between sunrise and 1200 by walking suitable riparian habitats within 500 feet of the Survey Area as well as stopping in the best locations within the habitat in order to visually and audibly observe for vireos. Protocol surveys took place between sunrise and 1100. No more than 50 hectares of suitable riparian habitat were surveyed by each biologist per day. Biologists listened for the song of the male vireo as well as the whisper songs, calls, and scolds of both sexes and looked for individual vireos within the surveyed habitats. All vireos, other birds, and wildlife and their sign (e.g., tracks, scat, carcasses, feathers, burrows, nests, excavations, and vocalizations) detected during the focused surveys were recorded (Appendix B). Chambers Group biologists also recorded the locations of all sensitive species. Recorded observations generally included behaviors, pairing statuses, and nesting statuses of vireo, brown-headed cowbird presence, habitat characteristics, and other pertinent data. The USFWS guidelines require any vireos identified be observed for banded legs and any observed banding combinations be recorded.

SECTION 3.0 – RESULTS

3.1. LITERATURE REVIEW

3.1.1 Status Codes

The following information is a list of abbreviations used to help determine the significance of biological resources potentially occurring in the Survey Area.

Federal

FE = Federally listed; Endangered

FT = Federally listed; Threatened

FC = Federal Candidate for listing

State

ST = State listed; Threatened

SE = State listed; Endangered

RARE = State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)

CSC = State Species of Special Concern

CNPS

List 1A = Plants presumed extinct in California.

List 1B = Plants rare and endangered in California and throughout their range.

List 2 = Plants rare, threatened or endangered in California but more common elsewhere in their range.

List 3 = Plants about which we need more information; a review list.

List 4 = Plants of limited distribution; a watch list.

CNPS Extensions

0.1 = Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).

0.2 = Fairly endangered in California (20-80 percent occurrences threatened).

0.3 = Not very endangered in California (less than 20 percent of occurrences threatened).

3.1.2 Plants

The literature review resulted in a list of 14 sensitive plant species that have been known to occur in the Devil's Gate area. Eight of these sensitive species were considered to have a potential to occur in the Survey Area prior to the focused plant survey, none were observed.

The following six plant species are considered **absent** from the Survey Area due to a lack of suitable habitat present or because the species occurs outside the elevation range found in the Survey Area:

- round-leaved filaree (*California macrophylla*) – CNPS List 1B.1;
- southern tarplant (*Centromadia parryi* ssp. *australis*) – CNPS List 1B.1;
- Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*) – CNPS List 1A;
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) – CNPS List 1B.1;
- San Gabriel linanthus (*Linanthus concinnus*) – CNPS List 1B.2; and
- Orcutt's linanthus (*Linanthus orcuttii*) – CNPS List 1B.3.

Suitable habitat was present onsite for eight sensitive species; however, after the focused plant surveys in which none of these species were observed within the Survey Area, the following species are considered **absent** from the site:

- Nevin's barberry (*Berberis nevinii*) – **FE**, **SE**, CNPS List 1B.1 and
- Plummer's mariposa lily (*Calochortus plummerae*) – CNPS List 1B.2;
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*) – CNPS List 1B.1;
- slender-horned spineflower (*Dodecahema leptoceras*) – **FE**, **SE**, CNPS List 1B.1;
- mesa horkelia (*Horkelia cuneata* ssp. *puberula*) – CNPS List 1B.1;
- white rabbit-tobacco (*Pseudognaphalium leucocephalum*) – CNPS List 2.2;
- Parish's gooseberry (*Ribes divaricatum* var. *parishii*) – CNPS List 1A; and
- Greata's aster (*Symphyotrichum greatae*) – CNPS List 1B.3.

3.1.3 Wildlife

After a literature review and an assessment of the various habitat types in the Survey Area, it was determined that 14 sensitive wildlife species have the potential to occur within the Survey Area or were present in the Survey Area during the survey. Factors used to determine potential for occurrence include quality of habitat, impact of surrounding residential development, and the date and location of prior CNDDB records of occurrence. The following identifies these sensitive species and their potentials to occur. Current listing status for each species is provided after their scientific names:

Due to the lack of known historical occurrences within five miles of the Survey Area, the following nine species have a **low** potential for occurrence in the Survey Area:

- pallid bat (*Antrozous pallidus*) – CSC;
- burrowing owl (*Athene cunicularia*) – CSC; and
- southwestern willow flycatcher (*Empidonax traillii extimus*) **– FE, SE;**
- western mastiff bat (*Eumops perotis californicus*) – CSC;
- western yellow bat (*Lasiurus xanthinus*) – SCS
- southern grasshopper mouse (*Onchomys torridus ramona*) – CSC;
- coast horned lizard (*Phrynosoma blainvillii*) – CSC;
- Sierra Madre yellow-legged frog (*Rana muscosa*) – CSC; and
- American badger (*Taxidea taxus*) – CSC.

Due to the presence of suitable habitat, the following species have a **moderate** potential for occurrence in the Survey Area:

- southwestern pond turtle (*Actinemys marmorata*) – CSC; and
- least Bell's vireo (*Vireo bellii pusillus*) – **FE, SE**.

Due to the presence of suitable habitat and occurrences within five miles of the Project site, the following species has a **high** potential for occurrence in the Survey Area:

- coast range newt (*Taricha torosa torosa*) – CSC.

The following two species were **present** within the Survey Area during the biological reconnaissance survey. It was determined that the yellow warbler was migrating through the site, not nesting. An expired two-striped garter snake was observed on the dirt road leading to the spillway of the dam.

- yellow warbler (*Dendroica petechia*) – CSC (nesting); and
- two-striped garter snake (*Thamnophis hammondii*).

3.2. SOILS

After review of USDA Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2009), it was determined that data using this resource does not exist at this time. Soil data is important in the process of analyzing what plants may occur in the Survey Area. Most sensitive plants will only grow in specific soil types. Soil types will then help determine where to conduct focused surveys for listed plants. The following includes a description of soils identified during the reconnaissance level survey.

Many soil types were found present in the Survey Area during the biological reconnaissance survey. Sandy soils occur within the Arroyo Seco watershed. Clay soils occur in low spots, which create areas where water can pool. Silty soils occur at the spillway of Devil's Gate Dam, and sandy loam soils occur in upland communities.

3.3. BIOLOGICAL RECONNAISSANCE SURVEY

3.3.1 Vegetation

3.3.1.1 General

At the time of the survey, the Survey Area was primarily composed of riparian and upland communities (Figure 3). Southern Coast Live Oak does occur in the Survey Area and adjacent to the site. Southern Sycamore Alder Riparian Forests was not identified on the site. Representative site photographs were taken to document site conditions during the survey (Appendix C).

3.3.1.2 Vegetation Communities Descriptions

Riparian Communities

Black Willow Series

Black Willow Series, as described by Sawyer and Keeler-Wolf (1995), exists when black willow (*Salix gooddingii*) is the sole dominant shrub or tree in the canopy. This community occurs in habitats seasonally flooded and saturated with freshwater. This community occurs in floodplains along rivers and streams and on the edges of meadows. Species that usually occur with black willow include California sycamore (*Platanus racemosa*), coyote brush (*Baccharis pilularis*), Fremont cottonwood (*Populus fremontii),* Mexican elderberry (*Sambucus mexicana*), mule fat (*Baccharis salicifolia*), white alder (*Alnus rhombifolia),* and other willows (*Salix* sp.).

Black Willow Series is present in the Survey Area within the reservoir along the stream. Black willow is dominant in this community. Other native species include mule fat (*Baccharis salicifolia*), Fremont cottonwood, black cottonwood (*Populus trichocarpa),* white alder, red willow (*Salix laevigata*), and California dodder (*Cuscuta californica*). Non-native species in this community include gum tree (*Eucalyptus* sp.) and tree tobacco (*Nicotiana gluaca*).

White Alder Woodland

White Alder Woodland consists of tall, open broadleaved, winter-deciduous, streamside woodland often dominated by white alder. White alders prefer perennial streams. Species that may occur in this community include big leafed maple (*Acer macrophyllum*), mugwort (*Artemisia douglasiana*), coast live oak (*Quercus agrifolia*), California blackberry (*Rubus ursinus*), Mexican elderberry, poison oak (*Toxicodendron diversilobum*), California bay (*Umbellularia californica*), and stinging nettle (*Urtica dioica*).

A small patch of White Alder Woodland is present at the northernmost point of the Survey Area. The patch of trees is located on the east bank of the Arroyo Seco watershed. The understory consists of sand, most likely due to regular scouring from floods.

Mule Fat Scrub

Mule Fat Scrub consists of dense stands of mule fat with lesser amounts of willow species. This community type is classified as a mixed evergreen-deciduous shrubland with a continuous canopy and a sparse understory. This community typically occupies intermittent streambeds and seeps; and it occurs at elevations ranging from sea level to 4,100 feet amsl (Holland 1986; Gray and Bramlet 1992).

The Mule Fat Scrub community is present in the Survey Area. The native plant species found include mule fat and black willow. Non-native species found within this community in the Survey Area include Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), and short-podded mustard *(Hirschfeldia incana*).

Riparian Herbaceous

Riparian Herbaceous vegetation is an early successional stage of willow scrub and riparian forest communities. Flooding (or other disturbance factors) often scours woody riparian vegetation away, and the site is rapidly colonized by pioneer wetland herbaceous plants (Gray and Bramlet 1992).

Sparse riparian herbaceous vegetation is present within the waterway if the Survey Area. Native plant species found in this community include mule fat, black willow, and red willow. Nonnative plant species in this community include curly dock (*Rumex crispus*), wild radish (*Raphanus sativus*), and short-podded mustard.

<u>Upland Communities</u>

Coast Live Oak Woodland

Coast Live Oak Woodland consists of evergreen trees dominated by coast live oak reaching between 30 to 80 feet in height. Shrub layer is poorly developed and can include lemonade berry (*Heteromeles arbutifolia*), gooseberry *(Ribes* sp.), and Mexican elderberry. Herbaceous layer is continuous and dominated by nonnatives such as ripgut brome (*Bromus diandrus*). This community occurs on exposed north-facing slopes below 4,000 feet amsl and in shaded ravines in the south and has been known to intergrade with Coastal Scrub, Upper Sonoran Mixed Chaparral on drier sites and Coast Live Oak Forest and Mixed Evergreen Forest on moister sites (Holland 1986).

Coast Live Oak Woodland is present in the Survey Area on the slopes east and west of the watershed. Coast live oak is the dominant species in this community. Other native species included Mexican elderberry and poison oak. Nonnative species in the understory included wild oat (*Avena fatua*), ripgut brome, foxtail chess (*Bromus madritensis*), Italian thistle, and short-podded mustard. A few scattered coast live oaks occur on the church grounds within the ornamental vegetation community.

Riversidian Alluvial Fan Sage Scrub

Riversidian Alluvial Fan Sage Scrub occurs in alluvial fans as well as in washes and is a subtype of Riversidian Coastal Scrub (Holland 1986). Three stages of alluvial fan scrub succession are described by Smith (1980) with density and species diversity varying in direct relationship to the frequency of water scouring each stage receives. Older stages of alluvial scrub are located on high benches and have not been subjected to a recent major flood event. This mature stage can be identified by the presence of larger shrubs, an increase in species diversity, and a groundcover of organic material and annual grasses. Many large shrubs over 10 feet in height are found in the mature community, including laurel (*Malosma*

laurina). The intermediate and early stages are located on lower benches closer to the active flood plain and have been subjected to relatively recent flooding events. Intermediate and early stages are progressively more open and less diverse. Medium-sized shrubs up to four feet in height can be found in intermediate stage areas, while early stage shrubs are rarely greater than two feet in height. Organic material and annual grasses are much less common in intermediate areas and are almost absent in early stages. Scale-broom (*Lepidospartum squamatum*), considered to be an indicator species of alluvial scrub communities, is present in most alluvial scrub communities.

Riversidian Alluvial Fan Sage Scrub is present on the northeast portion if the Survey Area. Plant species found in the Survey Area include scale-broom, California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), our Lord's candle (*Yucca whipplei*), and coastal prickly pear (*Opuntia littoralis*).

Other Communities

Ephemeral Stream

An ephemeral stream has flowing water for a short duration after precipitation events in a representative year. The main source of water flow in an ephemeral stream is runoff from rainfall. Ephemeral stream beds are located above the water table year-round.

Ephemeral Pond

An ephemeral pond holds water for a short duration after precipitation events in a representative year. The source of water flow in an ephemeral pond is from rainfall.

Disturbed

Disturbed areas are those areas that are either devoid of vegetation (cleared or graded), such as dirt roads, or those areas that have a high percentage of non-native weedy species (i.e., greater than 25 percent of the species cover). Disturbed areas are present along the boundaries of the work area and within the watershed. Maintenance roads exist on the east and west sides of the reservoir and pedestrian/horseback riding trails exist on the west side and within the reservoir.

Ornamental Landscaping

Ornamental Landscaping includes areas where the vegetation is dominated by nonnative horticultural plants (Gray and Bramlet 1992). Typically, the species composition consists of introduced trees, shrubs, flowers, and turf grass.

Several areas within the Survey Area have Ornamental Landscaping. Ornamental pine trees (*Pinus* spp.) are located directly west of the dam wall and in the staging area located west of the church parking lot. The church grounds are landscaped with ornamental herbs, shrubs, and trees. On the sloped areas outside of the reservoir as well as within the reservoir, ornamental gum trees (*Eucalyptus* spp.) exist in coast live oak woodland and black willow series communities.

Poison Hemlock Series

Poison Hemlock Series is a vegetation community dominated by the herbaceous weedy species poison hemlock. This biennial plant typically grows up to 10 feet in height and occurs in moist, especially

disturbed places at elevations generally less than feet 3,280 (Hickman 1993). Poison Hemlock Series is present within the watershed near the center of the Survey Area.

Peppergrass Series

Peppergrass Series is a vegetation community dominated by the herbaceous weedy species peppergrass (*Lepidium latifolium*). Peppergrass Series is present within the watershed near the center of the Survey Area.

3.3.1.3 Sensitive Plant Species

The following is a general discussion of the sensitive plants for which suitable habitat is present onsite. Although these species were not observed during the focused plant surveys and are considered absent from the Survey Area, this discussion provides a rationale for why surveys were initially required.

- Nevin's barberry (*Berberis nevinii*)

Nevin's barberry is a federally and state-listed threatened species and a CNPS List 1B.1 species. This perennial evergreen shrub flowers between March and June in chaparral, coastal scrub, cismontane woodlands, and riparian scrub in sandy/gravelly soils. This species occurs at elevations between 900 to 2,705 feet amsl. The known range of this species exists in Los Angeles, Riverside, San Bernardino, and San Diego counties in California. Suitable habitat is present onsite within the watershed and in upland coastal and alluvial fan communities.

- Plummer's mariposa lily (*Calochortus plummerae*)

Plummer's mariposa lily is a CNPS List 1B.2 species. This perennial, bulbiferous herb flowers between May and July in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grasslands. This species occurs at elevations between 325 to 5,580 feet amsl. The known range of this species exists in Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties in California. Suitable habitat is present onsite in Coastal and Alluvial Fan Sage Scrub communities in the understory of the Coast Live Oak Woodland community.

- Parry's spineflower (*Chorizanthe parryi* var. *parryi*)

Parry's spineflower is a CNPS List 1B.1 species. This annual herb flowers between April and June in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. This species occurs at elevations between 900 to 4,000 feet amsl. The known range of this species exists in Los Angeles, Riverside, and San Bernardino counties in California. Suitable habitat is present onsite in Coastal and Alluvial Fan Sage Scrub communities and in the understory of the Coast Live Oak Woodland community.

- slender-horned spineflower (*Dodecahema leptoceras*)

Slender-horned spineflower is a federal and state-listed endangered species and a CNPS List 1B.1 species. This annual herb flowers between April and June in chaparral, cismontane woodlands, and coastal scrub habitats. This species occurs at elevations between 655 to 2,495 feet amsl. The known range of this species exists in Los Angeles, Riverside, and San Bernardino counties in California. Suitable habitat is present onsite in Coastal and Alluvial Fan Sage Scrub communities.

- mesa horkelia (*Horkelia cuneata* ssp. *puberula*)

Mesa horkelia is a CNPSList 1B.1 species. This perennial herb flowers between February and September in chaparral, cismontane woodland, and coastal scrub communities. This species occurs at elevations between 225 to 2,660 feet amsl. The known range of this species exists in Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura counties in California. Suitable habitat is present onsite in Coastal and Alluvial Fan Sage Scrub communities.

- white rabbit-tobacco (*Pseudognaphalium leucocephalum*)

White rabbit-tobacco is a CNPS List 2.2 species. This perennial herb flowers between July and December in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. This species occurs at elevations between sea level and 6,900 feet amsl. The known range of this species exists in Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura counties in California, as well as into Arizona, Baja California, New Mexico, Sonora - Mexico, and Texas.

- Parish's gooseberry (*Ribes divaricatum* var. *parishii*)

Parish's gooseberry is a CNPS List 1A species. This perennial, deciduous shrub flowers between February and April typically in Riparian Woodland habitat. This species occurs at elevations between 210 to 985 feet amsl. The known range of this species exists in Los Angeles and San Bernardino counties in California. Suitable habitat is present onsite within the Black Willow Series of the Survey Area. No recent historical populations have been recorded within the vicinity of the site.

- Greata's aster (*Symphyotrichum greatae*)

Greata's aster is a CNPS List 1B.3 species. This perennial, rhizomatous herb flowers between June and October in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland. This species occurs at elevations between 980 to 6,595 feet amsl. The known range of this species exists in Los Angeles, San Bernardino, and Ventura counties in California. Suitable habitat is present onsite in the Black Willow Series community.

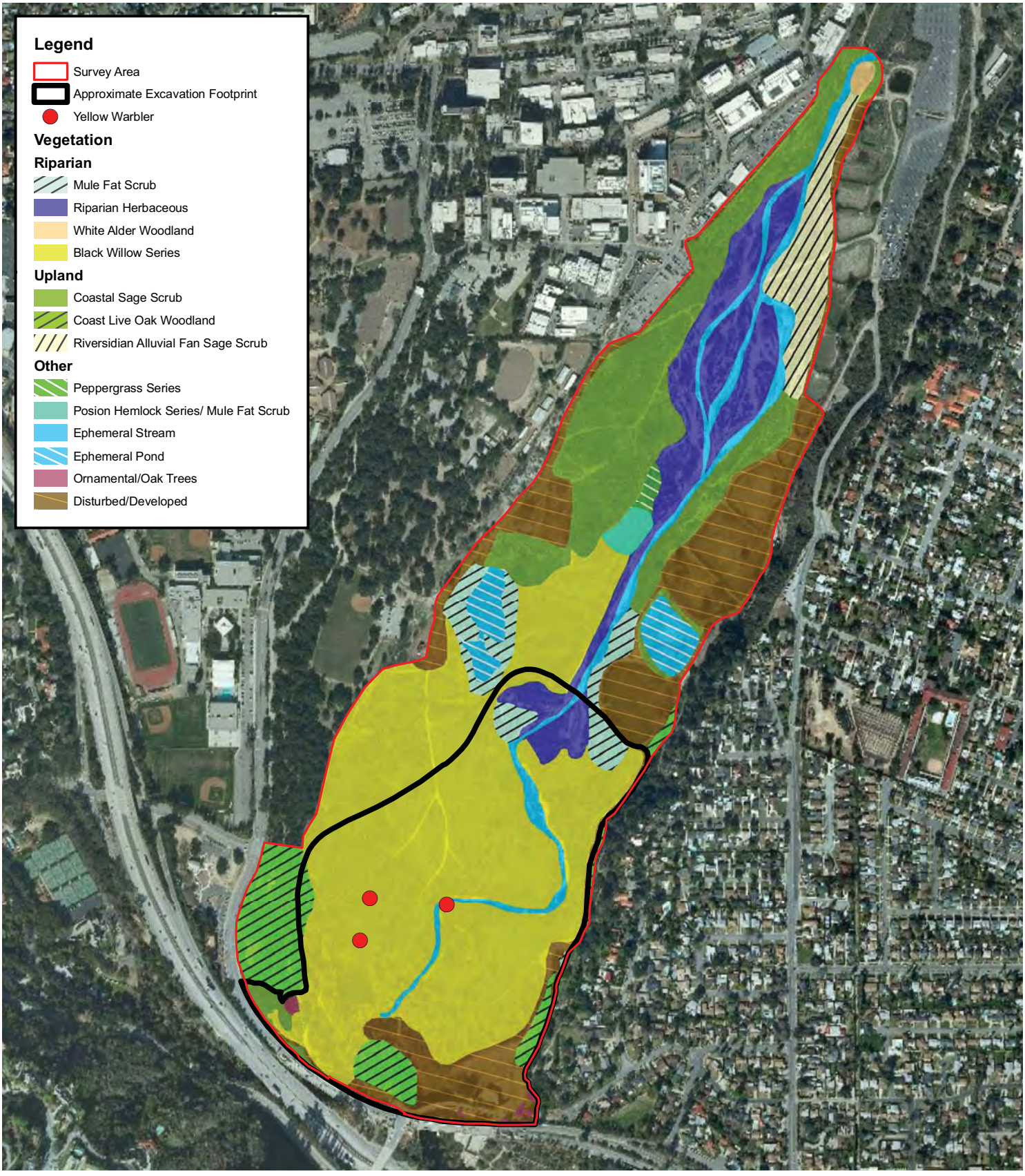


Figure 3
Biological Resources Map

Chambers Group Inc.

3.3.2 Wildlife

3.3.2.1 General

Wildlife species observed or detected during the site survey were characteristic of the existing site conditions. A full list of the wildlife species detected within the Survey Area is included in Appendix B.

Birds

Twenty-seven bird species were observed/detected in the Survey Area during the reconnaissance level survey. Species included California quail (*Callipepla californica),* mourning dove (*Zenaida macroura*), Allen's hummingbird (*Selasphorus sasin*)*,* acorn woodpecker (*Melanerpes formicivorus*)*,* northern rough-winged swallow *(Stelgidopteryx serripennis*)*,* common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), common yellowthroat (*Geothlypis trichas*), black-headed grosbeak *(Pheucticus melanocephalus*), and housefinch *(Carpodacus mexicanus).*

Mammals

Eight mammal species were observed or detected in the Survey Area during the survey. Species included the Virginia opossum (Didelphis virginiana), western gray squirrel (*Sciurus griseus*), domestic dog (*Canis familiaris*), striped skunk (*Mephitis mephitis*), and bobcat (*Lynx rufus*).

3.3.2.2 Sensitive Wildlife Species

Three sensitive wildlife species have a moderate to high potential to occur in the Survey Area. One species, least Bell's vireo, is a federally- and state-listed endangered species that has a moderate potential to occur on the site. Two species, western pond turtle and coast range newt, are California species of concern and have a moderate or high potential to occur on the site. One species, yellow warbler, is a California species of concern when nesting and was present on the site during the reconnaissance survey. A two-striped garter snake was observed dead (run over by a vehicle) on the dirt road leading to the spillway.

- Least Bell's Vireo (*Vireo bellii pusillus*) - FE, SE

The least Bell's vireo (nesting) is a federally- and state-listed endangered subspecies of the Bell's vireo. The breeding range of the species extends from North Dakota to Indiana, south through Arkansas and Texas, and west to southern New Mexico, Arizona, California, and northern Mexico; however, the least Bell's vireo subspecies is restricted to coastal California and Baja California, Mexico, and a few inland populations. Its winter range extends along the Pacific coast from northern Mexico south to northern Nicaragua. It is a small, gray songbird with two faint wing bars and a faint eye ring and is whiter below. This species prefers to nest in low, dense, scrubby vegetation in early successional areas and is particularly dependent on corridors of habitat along rivers and streams. Habitats may include willow woodlands and dense mule fat, scrub oak, coastal chaparral, and mesquite patches with dense early successional understories. It builds a suspended cup nest about 0.5 to 2.0 meters above the ground and, on average, lays four eggs. It may produce two broods per season. On the breeding grounds, the least Bell's vireo feeds primarily on insects and small spiders that it gleans from twigs and leaves. The two major factors in the decline of least Bell's vireo populations are loss of habitat and nest parasitism by the brown headed-cowbird (*Molothrus ater*). Habitat loss and degradation, especially along streams and rivers due to development, agriculture, flood-control projects, logging operations, and intensive

cattle grazing practices, are the greatest threats to the continued existence of the least Bell's vireo. Overgrazing has been estimated to have reduced nesting sites by 50 percent in some areas, and it has contributed to an increase in non-native invasive plant species that do not typically support the breeding of this species.

Cowbird parasitism is also an important factor in population declines. The cowbird lays its egg in the nest of an unsuspecting vireo, and the vireo may then raise the cowbird chick as its own. The cowbird egg hatches earlier than the vireo eggs, and the chick then grows much larger in less time, eventually outcompeting the vireo chicks and causing nest failure. Fragmentation of habitat also increases cowbird parasitism by artificially creating favored habitats of cowbirds; and it isolates small, fringe vireo populations. In turn these populations are more susceptible to localized extirpations which contribute to large-scale range reductions. Domestic and feral cats are also a significant predatory force in some areas. Despite historic population losses, recent trends indicate that populations are on the rise and that the least Bell's vireo is returning to parts of its former range as well as colonizing some new areas.

Habitat for the least Bell's vireo occurs in the Survey Area, within the reservoir, in Black Willow Series and Mule Fat Scrub vegetation communities. Historic records do not exist within the *Pasadena*, California 7.5-minute topographic quadrangle, however, known occurrences do exist for this species in the San Gabriel Mountains, Los Angeles County. Therefore, this species has a moderate potential to occur on the Project site.

- Coast Range Newt (*Taricha torosa torosa*) - CSC

The coast range newt is a California Species of Concern found in terrestrial habitats such as grasslands, woodlands, and forests. Within these habitat types, this species uses pools, ponds, reservoirs, and slow moving streams as breeding sites. Its range includes most of coastal California, and it may be found up to 7,800 feet in elevation. It has a light brown dorsum, reddish-orange or yellow venter, large eyes, smooth to rough skin, and may exceed seven inches in total length. Breeding males have flattened tails, dark skin on the undersides of the feet, and smooth skin. Its diet includes invertebrates such as earthworms, slugs, sowbugs, snails, and larval insects. This species is threatened by habitat loss and alteration of hydrological systems during the breeding season.

Habitat for the coast range newt occurs seasonally within the Survey Area. The Arroyo Seco watershed is a slow moving seasonal stream. Retention basins, one holding water at the time of the survey (most likely from rain), exist on the east side of the stream, and a seasonal pond, also filled with rain water, exists on the west side of the stream. The stream, basins, and pond are all potential breeding habitat for this species. A recent historic occurrence (2003) exists for this species in the Arroyo Seco watershed less than 0.5 mile upstream of the Survey Area. Therefore, this species has a high potential to occur in the Survey Area.

- Southwestern Pond Turtle (*Clemmys marmorata pallida*) - CSC

This species is a California Species of Concern. This species occurs along the west coast of North America from Baja California up to San Francisco Bay and from sea level to 5,900 feet in elevation (California Reptiles and Amphibians 2009). It inhabits permanent or nearly permanent bodies of water in many habitat types including ponds, marshes, rivers, and streams that typically have a rocky or muddy bottom and extensive aquatic vegetation along water body margins (California Reptiles and Amphibians 2009). The southwestern pond turtle requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. This species occurs in a variety of habitat types including woodland,

grassland, and open forest (California Reptiles and Amphibians 2009). Although this species is considered aquatic, some spend a lot of time on land (Bury and Germano 2008). The top of the shell is dark brown or yellow-olive and may have dark streaks (Bury and Germano 2008). Pond turtles are diurnal, but will quickly slide into water when they feel threatened. Most activity takes place from February to November. They hibernate under water in mud and will estivate during dry summers in soft mud, leaf litter, or wood rat nests (California Reptiles and Amphibians 2009). If water temperatures are right, this species may be active year-long (Bury and Germano 2008). Pond turtles mate in April and May and nest between April and August (California Reptiles and Amphibians 2009). Hatchlings emerge in early fall. Pond turtles feed on aquatic plants, invertebrates, worms, frog and salamander eggs and larvae, crayfish, carrion, and occasionally frogs and fish (California Reptiles and Amphibians 2009). Habitat destruction is the primary threat to this species. Pond turtles are found to occur in dams, although the habitat quality is low. Dams cause cooler water temperatures, fast flows below the dams, and human disturbance due to fishing in reservoirs behind the dams. Reservoirs also tend to have decreased vegetation cover, which decreases invertebrates (Bury and Germano 2008).

Habitat for the southwestern pond turtle occurs seasonally within the Survey Area. The Arroyo Seco watershed is a slow moving seasonal stream. Retention basins, one holding water at the time of the survey (most likely from rain), exist on the east side of the stream. A pond filled with rain water, containing submerged logs, exists on the west side of the stream. The stream, basins and pond are all potential breeding habitat for this species. A historic occurrence (1971, less than 0.25 mile upstream) exists for this species in the Arroyo Seco watershed less than five miles upstream of the Survey Area. Therefore, this species has a moderate potential to occur in the Survey Area.

- Yellow Warbler (*Dendroica petechia brewsteri*) - CSC

The yellow warbler (nesting) is a California Species of Concern. Its breeding range includes most of North America from northern Alaska and northern Canada to the southern U.S. and Mexico. Wintering birds occur from Mexico to Peru. Breeding habitats include wet areas, such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories. In migration, yellow warblers may occur in other habitats, including early seral riparian habitats. Its plumage is more extensively yellow than other North American wood-warblers and it is also unique in having yellow on the inner webs of its tail feathers (except middle pair). Males show rusty streaking on the breast. Yellow warblers are almost entirely insectivorous, but they also eat a few berries. Populations are in decline in California due to habitat loss, grazing of riparian understories, and brood parasitism by the brown-headed cowbird.

The yellow warbler was observed in the Survey Area during the biological reconnaissance survey, in riparian habitat along the Arroyo Seco stream. This species is considered present within the Survey Area.

- Two-striped Garter Snake

The two-striped garter snake is a California Species of Concern. It is found in Salinas in Monterey County, south along the coast, into the Traverse Ranges in southern California, into Victorville, south to the Peninsular Ranges, and south to Baja California (California Reptiles and Amphibians 2009). The two-striped garter snake is found in or near permanent and intermittent freshwater habitats, including streams, rivers, ponds, and small lakes from sea level to around 8,000 feet. Oak woodlands, brushlands, sparse coniferous forests, and riparian forests may surround its freshwater habitat. It is recognized by its lack of a mid-dorsal stripe, and its coloration is usually olive or brownish above and dull yellow to

orange-red or salmon below. Intergrading color morphs are common. This highly aquatic snake is most active at dusk or at night, but it may also forage by day (California Reptiles and Amphibians 2009). Its diet includes tadpoles, toads, frogs, small fish, earthworms, California newt (*Taricha torosa torosa*) larvae, and aquatic eggs. The two-striped garter snake is a live-bearing species that gives birth to up to 36 young at a time. Loss of wetland habitats have contributed to a reduction in the range of this snake.

A two-striped garter snake was observed during the biological reconnaissance survey. The deceased snake was observed on the dirt road leading down to the spillway of the reservoir. This species is considered present within the Survey Area.

3.4. SENSITIVE SPECIES FOCUSED SURVEYS

3.4.1 Focused Plant Surveys

Based on the reconnaissance-level and focused plant surveys performed by Chambers Group, 246 plant species have been documented within the Survey Area (Appendix A).

The focused survey for the eight species below was negative. **No federal or state-listed as threatened or endangered or otherwise sensitive species were observed onsite.** The following species, which would have been flowering or conspicuous at the time of the focused plant survey, are therefore considered **absent** from the Survey Area:

- Nevin's barberry (*Berberis nevinii*) – **FE**, **SE**, CNPS List 1B.1;
- Plummer's mariposa lily (*Calochortus plummerae*) – CNPS List 1B.2;
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*) – CNPS List 1B.1;
- slender-horned spineflower (*Dodecahema leptoceras*) – **FE**, **SE**, CNPS List 1B.1;
- mesa horkelia (*Horkelia cuneata* ssp. *puberula*) – CNPS List 1B.1; and
- white rabbit-tobacco (*Pseudognaphalium leucocephalum*) – CNPS List 2.2;
- Parish's gooseberry (*Ribes divaricatum* var. *parishii*) – CNPS List 1A; and
- Greata's aster (*Symphyotrichum greatae*) – CNPS List 1B.3.

3.4.2 Focused Least Bell's Vireo Surveys

Chambers Group biologists conducted focused presence/absence surveys for least Bell's vireo on May 27; July 7, 15, 22, and 29; and August 5, 12, and 19. Vireo surveys were performed according to modified USFWS guidelines (USFWS 2001). Constraints prevented surveys from being conducted early in the season; therefore, in order to complete all surveys during the 2010 breeding season, surveys were conducted from May through August approximately seven days apart. Least Bell's vireo was **not observed** in the Survey Area; however, since a large amount of suitable nesting habitat occurs within the Mule Fat Scrub and Black Willow Series communities in the Survey Area, this species has moderate potential to occur.

SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS

4.1. RIPARIAN/RIVERINE AND WETLAND

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. Waters of the United States include navigable waterways and wetlands adjacent to navigable waterways, non-navigable waterways, and wetlands adjacent to non-navigable waters that are contiguous with navigable waterways.

The State of California regulates discharge of dredged and/or fill material into waters of the State pursuant to Section 401 of the Clean Water Act. The local Regional Water Quality Control Boards assert jurisdiction to all those areas defined as jurisdictional under Section 404 of the Clean Water Act, plus isolated waters. As a State agency, the State Water Resources Quality Control Board (SWRQCB) regulates all waters of the State, including isolated wetlands as defined Under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 et seq.).

Jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement.

The Devil's Gate Reservoir Project site is located within the Arroyo Seco watershed, a blue-line stream, which contains riparian vegetation and flowing water. Because sediment removal is proposed to take place, a formal delineation will be required prior to any ground disturbing activities.

4.2. SENSITIVE SPECIES

4.2.1 Sensitive Plants

Of the 14 sensitive plant species identified in the literature review, 8 species, Nevin's barberry, Plummer's mariposa lily, Parry's spineflower, slender-horned spineflower, mesa horkelia, white rabbit-tobacco, Parish's gooseberry, and Greata's aster, have suitable habitat present onsite. Two of the sensitive plants from the literature search, Nevin's barberry and slender horned spineflower, are federal and state-listed as endangered species. Agencies require focused surveys for any federal-and/or state-listed species with any kind of potential to occur onsite when the species is in bloom, to ensure it is both evident and identifiable at the time of the survey. Seven of the sensitive species have an overlapping blooming period in June. Parish's gooseberry blooms from February to April but is a shrub that can be detected outside of its blooming period. One species, white rabbit-tobacco, blooms from August to November, with uncommon flowering months in July and December.

Two focused plant surveys were conducted in the Survey Area to capture the blooming periods for all sensitive plant species with a potential to occur. The first focused plant survey was conducted from June 28 through June 30, 2010. The second focused survey was conducted on August 24, 2010. No listed or otherwise sensitive plant species were detected during either of the focused surveys conducted in the Survey Area. Therefore, the eight plant species with a potential to occur are considered **absent** from the Survey Area at this time.

4.2.2 Sensitive Wildlife

Of the 14 sensitive wildlife species identified in the literature review, 5 sensitive wildlife species were either observed in the Survey Area or have a moderate or high potential to occur in the Survey Area due to habitat onsite and/or nearby historic occurrences.

The least Bell's vireo is a federal- and state- endangered species. Because habitat for this species occurs in the Survey Area and occurrences are known in other areas of the San Gabriel Mountains, focused protocol-level least Bell's vireo surveys were conducted from May through August 2010 following modified USFWS *Least Bell's Vireo Survey Guidelines* (Jan. 19, 2001). **No least Bell's vireos were observed.**

The yellow warbler **was observed** in the Survey Area in riparian habitat during the reconnaissance survey and during subsequent least Bell's vireo surveys. Although specific breeding statuses were not obtained during the surveys, due to time constraints, this species likely migrates through the area. The yellow warbler is a California species of concern, and focused surveys will not be required for this species. Locations of observations of this species are located in the Biological Resources Map (Figure 3).

The southwestern pond turtle, coast range newt, and two-striped garter snake are California species of concern. The two-striped garter snake **was observed** within the Survey Area during the biological reconnaissance survey. The southwestern pond turtle and coast range newts were **not observed** within the Survey Area. In order to minimize impacts to these three California Species of Concern, a biological monitor should be present during construction. If special status species are observed in harms way the monitoring biologist will implement protection measures; these measures may include re-directing the species, construction exclusionary devices (e.g. fencing), or capture/relocation outside of the work area. Species relocation techniques and locations will require approval from CDFG.

In addition, ground disturbing activities should be conducted during the non-breeding season (September 1 to February 14) in order to limit impacts to nesting birds. If ground disturbing activities need to take place during breeding season (February 15 through August 31), in order to remain in compliance with the Migratory Bird Treaty Act, a pre-construction nesting bird survey(s) will be required. The last survey day should be conducted a minimum of three days prior to the start of work.

SECTION 5.0 – REFERENCES

Brown, B.T.

1993 Bell's Vireo (*Vireo bellii)*. In The Birds of North America, No. 35 (A. Poole, P. Stettenheim, and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists' Union.

Bury, B.R. and D.J. Germano

2008 *Actinemys marmorata (Baird & Girard 1852) – Western Pond Turtle, Pacific, Pond Turtle.* Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialists Group. Chelonian Research Foundation. USA. May 15, 2008.

California Department of Fish and Game (CDFG)

2010 California Natural Diversity Database (CNDDB). RareFind Version 3.1.0. Database Query for the *Pasadena*, California, USGS 7.5-minute quadrangle. Wildlife and Habitat Data Analysis Branch.

California Native Plant Society Electronic Inventory (CNPSEI)

2010 Inventory of Rare and Endangered Plants (online edition). Rare Plant Scientific Advisory Committee, California Native Plant Society, Sacramento, California. Accessed on May 2010 from http://www.cnps.org/inventory for the *Pasadena,* California*,* USGS 7.5-minute quadrangle.

Gray, J. and D. Bramlet

1992 Habitat Classification System, Natural Resources, Geographic Information System (GIS) Project. County of Orange Environmental Management Agency, Santa Ana, California.

Hickman, J.C. (ed.)

1993 *The Jepson Manual: Higher Plants of California.* University of California Press, Berkeley, California.

Holland, R.F.

1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Unpublished report available from the California Department of Fish and Game, Sacramento, California.

Lowther, P.E., C. Celada, N.K. Klein, C.C. Rimmer, and D.A. Spector.

1999 Yellow Warbler (*Dendroica petechia*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology. URL: http://bna.birds.cornell.edu/BNA/account/Yellow_Warbler/ accessed on July 2, 2007.

Sawyer, J.O., Jr., and T. Keeler-Wolf

1995 *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Smith, R.L.

1980 Alluvial Scrub Vegetation of the San Gabriel River Floodplain, California. *Madroño*, 27(3): 126-138.

Southern Pacific Pond Turtle (*Actinemys marmorata pallida*)

2009 California Reptiles and Amphibians. CaliforniaHerps.com. http://www.californiaherps.com/turtles/pages/a.m.pallida.html. Accessed May 2010.

Two-Striped Garter Snake (*Thamnophis hammondii*)

2009 California Reptiles and Amphibians. CaliforniaHerps.com. http://www.californiaherps.com/turtles/pages/a.m.pallida.html. Accessed October 2010.

U.S. Department of Agriculture (USDA)

2009 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [Online WWW]. Available URL: "http://soils.usda.gov/technical/classification/osd/index.html" [Accessed May 2010].

U.S. Fish and Wildlife Service (USFWS)

1998 Draft Recovery Plan for the Least Bell's Vireo. U.S. Fish and Wildlife Service, Portland, Oregon. 139pp.

2001 Least Bell's vireo survey guidelines. Carlsbad Field Office, Carlsbad, California. Letter dated January 19, 2001. 3 pp.

APPENDIX A – PLANT SPECIES OBSERVED ONSITE

Comprehensive List of Plant Species Observed
In the Devil's Gate Reservoir Survey Area

Scientific Name	Common Name
FERNS AND FERN ALLIES	
PTERIDACEAE	**BRAKE FAMILY**
Pellaea andromedifolia	coffee fern
Pentagramma triangularis	goldenback fern
GYMNOSPERMS	
CUPRESSACEAE	**CYPRESS FAMILY**
Cedrus deodara	deodar cedar
Chamaecyparis sp.*	false cypress
Juniperus sp.*	juniper
PINACEAE	**PINE FAMILY**
*Pinus halepensis**	Aleppo pine
ANGIOSPERMS (DICOTYLEDONS)	
ACERACEAE	**MAPLE FAMILY**
Acer negundo var. *californicum*	California box-elder
AMARANTHACEAE	**AMARANTH FAMILY**
*Amaranthus retroflexus**	rough pigweed
ANACARDIACEAE	**SUMAC OR CASHEW FAMILY**
Malosma laurina	laurel sumac
Rhus ovata	sugar bush
Rhus trilobata	skunkbrush
Toxicodendron diversilobum	poison oak
APIACEAE	**CARROT FAMILY**
*Conium maculatum**	poison hemlock
APOCYNACEAE	**DOGBANE FAMILY**
*Vinca major**	greater periwinkle
ASCLEPIADACEAE	**MILKWEED FAMILY**
Asclepias californica	California milkweed
ASTERACEAE	**SUNFLOWER FAMILY**
Acourtia microcephala	sacapellote
*Ageratina adenophora**	eupatory
Ambrosia acanthicarpa	annual bur-sage
*Anthemis cotula**	mayweed
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Artemisia dracunculus	tarragon
Baccharis pilularis	coyote brush
Baccharis pilularis (cultivar)*	coyote brush
Baccharis salicifolia	mule fat
Brickellia californica	California brickellbush
*Carduus pycnocephalus**	Italian thistle
*Centaurea melitensis**	tocalote

Scientific Name	Common Name
Chaenactis artemisiaefolia	white pincushion
Chaenactis glabriuscula	yellow pincushion
Cirsium occidentale var. *californicum*	cobweb thistle
*Cirsium vulgare**	bull thistle
Conyza canadensis	horseweed
*Cotula australis**	Australian brass-buttons
Eclipta prostrate	false daisy
Eriophyllum confertiflorum	golden yarrow
*Filago gallica**	fluffweed
Gnaphalium bicolor	bicolored cudweed
Gnaphalium californicum	California everlasting
Gnaphalium canescens	felty everlasting
*Gnaphalium luteo-album**	white cudweed
Helianthus annuus	common sunflower
Heterotheca grandiflora	telegraph weed
Heterotheca villosa	hairy false golden-aster
*Lactuca serriola**	prickly lettuce
Lepidospartum squamatum	scale-broom
Malacothrix saxatilis	cliff malacothrix
Rafinesquia californica	California chicory
Senecio flaccidus	shrubby butterweed
Sonchus asper ssp. *asper**	prickly sow thistle
*Sonchus oleraceus**	common sow thistle
Stylocline gnaphaloides	everlasting nest straw
*Taraxacum officinale**	common dandelion
Tetradymia canescens	spineless horsebrush
Xanthium strumarium	cocklebur
BETULACEAE	**BIRCH FAMILY**
Alnus rhombifolia	white alder
BIGNONIACEAE	**BIGNONIA FAMILY**
*Catalpa bignonioides**	southern catalpa
BORAGINACEAE	**BORAGE FAMILY**
Cryptantha intermedia	common forget-me-not
Heliotropium curassavicum	salt heliotrope
Turricula parryi	poodle dog bush
BRASSICACEAE	**MUSTARD FAMILY**
*Capsella bursa-pastoris**	shepherd's-purse
*Coronopus didymus**	wart cress
Descurainia pinnata	western tansy-mustard
*Hirschfeldia incana**	shortpod mustard
*Lepidium latifolium**	peppergrass
Lepidium sp.	peppergrass
*Lobularia maritima**	sweet-alyssum

Scientific Name	Common Name
*Raphanus sativus**	radish
Rorippa nasturtium-aquaticum	water-cress
*Sisymbrium altissimum**	tumble mustard
*Sisymbrium irio**	London rocket
CACTACEAE	**CACTUS FAMILY**
Opuntia basilaris	beavertail cactus
*Opuntia ficus-indica**	Indian fig
Opuntia littoralis	coastal prickly pear
CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
Sambucus mexicana	Mexican elderberry
CARYOPHYLLACEAE	**PINK FAMILY**
*Cerastium glomeratum**	mouse-ear chickweed
*Polycarpon tetraphyllum**	four-leaved allseed
*Spergularia bocconii**	Boccone's sandspurrey
*Stellaria media**	common chickweed
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
*Chenopodium album**	lamb's quarters
*Chenopodium ambrosioides**	Mexican tea
*Chenopodium pumilio**	clammy goosefoot
*Salsola tragus**	Russian thistle
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
Calystegia macrostegia	western bindweed
CRASSULACEAE	**STONECROP FAMILY**
Dudleya lanceolata	lance-leaved dudleya
CUCURBITACEAE	**GOURD FAMILY**
*Cucurbita pepo**	pumpkin
Marah macrocarpus	wild cucumber
CUSCUTACEAE	**DODDER FAMILY**
Cuscuta californica	California dodder
ERICACEAE	**HEATH FAMILY**
Arctostaphylos sp.	manzanita
EUPHORBIACEAE	**SPURGE FAMILY**
*Chamaesyce maculata**	spotted spurge
Eremocarpus setigerus	dove weed
*Ricinus communis**	castor-bean
FABACEAE	**LEGUME FAMILY**
*Acacia baileyana**	mimosa acacia
*Acacia longifolia**	Sydney golden wattle
*Genista monspessulana**	French broom
Lotus purshianus var. *purshianus*	Spanish clover
Lotus scoparius	deerweed
Lotus sp.	lotus
Lotus strigosus	strigose lotus

Scientific Name	Common Name
Lupinus bicolor	miniature lupine
Lupinus excubitus ssp. *austromontanus*	grape soda lupine
Lupinus hirsutissimus	stinging lupine
Lupinus sp.	lupine
Lupinus sparsiflorus	Coulter's lupine
*Medicago polymorpha**	bur clover
*Melilotus indica**	sourclover
*Spartium junceum**	Spanish broom
Trifolium sp.	clover
FAGACEAE	**OAK FAMILY**
Quercus agrifolia	coast live oak
Quercus engelmannii	Engelmann oak
GENTIANACEAE	**GENTIAN FAMILY**
Centaurium venustum	canchalagua
GERANIACEAE	**GERANIUM FAMILY**
*Erodium brachycarpum**	long-beaked filaree
*Erodium cicutarium**	red-stemmed filaree
GROSSULARIACEAE	**GOOSEBERRY FAMILY**
Ribes aureum	golden currant
HYDROPHYLLACEAE	**WATERLEAF FAMILY**
Emmenanthe penduliflora	whispering bells
Eriodictyon crassifolium	thick-leaved yerba santa
Eriodictyon trichocalyx	hairy yerba santa
Eucrypta chrysanthemifolia	common eucrypta
Phacelia brachyloba	short-lobed phacelia
Phacelia cicutaria	caterpillar phacelia
Phacelia grandiflora	large-flowered phacelia
Phacelia minor	wild canterbury-bell
Phacelia ramosissima	branching phacelia
JUGLANDACEAE	**WALNUT FAMILY**
Juglans californica	California black walnut
LAMIACEAE	**MINT FAMILY**
*Lamium amplexicaule**	henbit
*Marrubium vulgare**	horehound
Salvia apiana	white sage
Salvia columbariae	chia
Salvia mellifera	black sage
Trichostema lanatum	woolly bluecurls
LOASACEAE	**LOASA FAMILY**
Mentzelia micrantha	small-flowered stick-leaf
LYTHRACEAE	**LOOSESTRIFE FAMILY**
Lythrum californicum	California loosestrife

Scientific Name	Common Name
MALVACEAE	**MALLOW FAMILY**
*Malva parviflora**	cheeseweed
MORACEAE	**MULBERRY FAMILY**
*Ficus carica**	edible fig
MYRTACEAE	**MYRTLE FAMILY**
*Callistemon citrinus**	crimson bottlebrush
*Eucalyptus globulus**	blue gum
*Syzygium paniculatum**	magenta cherry
OLEACEAE	**OLIVE FAMILY**
Fraxinus velutina	velvet ash
*Olea europaea**	olive
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Camissonia bistorta	California suncup
Camissonia californica	California evening primrose
Camissonia confusa	San Bernardino suncup
Camissonia hirtella	suncup
Clarkia purpurea ssp. *quadrivulnera*	four spot
Epilobium ciliatum	California cottonweed
Gayophytum sp.	groundsmoke
Oenothera elata ssp. hookeri	Hooker's evening primrose
PAPAVERACEAE	**POPPY FAMILY**
Argemone munita	prickly poppy
PASSIFLORACEAE	**PASSION-FLOWER FAMILY**
*Passifloraceae caerulea**	common passion flower
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago indica**	Indian plantain
*Plantago lanceolata**	English plantain
PLATANACEAE	**SYCAMORE FAMILY**
Platanus racemosa	western sycamore
POLEMONIACEAE	**PHLOX FAMILY**
Allophyllum gilioides	false gilia
Eriastrum sapphirinum	sapphire eriastrum
Gilia capitata	blue field gilia
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum elongatum	long-stemmed buckwheat
Eriogonum fasciculatum	California buckwheat
Eriogonum roseum	wand buckwheat
*Polygonum arenastrum**	common knotweed
Polygonum lapathifolium	willow-weed
Pterostegia drymarioides	California thread-stem
*Rumex conglomeratus**	dock
*Rumex crispus**	curly dock

Scientific Name	Common Name
PORTULACACEAE	**PURSLANE FAMILY**
*Portulaca oleracea**	common purslane
PRIMULACEAE	**PRIMROSE FAMILY**
*Anagallis arvensis**	scarlet pimpernel
RANUNCULACEAE	**BUTTERCUP FAMILY**
Clematis pauciflora	ropevine
RHAMNACEAE	**BUCKTHORN FAMILY**
Ceanothus crassifolius	hoary leaf ceanothus
Ceanothus papillosus	wart-leafed ceanothus
Rhamnus californica	California coffeeberry
Rhamnus crocea	spiny redberry
Rhamnus ilicifolia	holly-leaf redberry
ROSACEAE	**ROSE FAMILY**
Adenostoma fasciculatum	chamise
Heteromeles arbutifolia	toyon
*Prunus persica**	peach
Prunus sp.	cherry
Rosa californica	California wild rose
*Rubus discolor**	Himalayan blackberry
RUBIACEAE	**MADDER FAMILY**
Galium angustifolium	narrow-leaved bedstraw
SALICACEAE	**WILLOW FAMILY**
Populus fremontii	Fremont cottonwood
Populus balsamifera ssp. *trichocarpa*	black cottonwood
Salix gooddingii	black willow
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
Salix lucida ssp. *caudata*	shining willow
SAURURACEAE	**LIZARD'S-TAIL FAMILY**
Anemopsis californica	yerba mansa
SAXIFRAGACEAE	**SAXIFRAGE FAMILY**
Boykinia rotudifolia	round-leaved boykinia
SCROPHULARIACEAE	**FIGWORT FAMILY**
Antirrhinum coulterianum	white snapdragon
*Antirrhinum multiflorum**	multiflowered snapdragon
Cordylanthus rigidus ssp. *setigerus*	bird's-beak
Keckiella cordifolia	heart leaved keckiella
Mimulus aurantiacus var. *pubescens*	orange bush monkey-flower
Mimulus brevipes	wide-throated monkey-flower
Mimulus cardinalis	scarlet monkey-flower
Mimulus floribundus	many-flowered monkey-flower
Mimulus pilosus	mimenanthe
Mimulus guttatus	common monkey-flower

Scientific Name	Common Name
Scrophularia californica	California figwort
*Verbascum thapsus**	woolly mullein
*Verbascum virgatum**	wand mullein
*Veronica anagallis-aquatica**	water speedwell
SIMAROUBACEAE	**QUASSIA FAMILY**
*Ailanthus altissima**	tree of heaven
SOLANACEAE	**NIGHTSHADE FAMILY**
*Datura wrightii**	jimson weed
*Nicotiana glauca**	tree tobacco
Nicotiana quadrivalvis	Wallace's tobacco
Solanum sp.	nightshade
Solanum douglasii	Douglas' nightshade
*Solanum rostratum**	buffalo berry
Solanum xanti	chaparral nightshade
ULMACEAE	**ELM FAMILY**
*Ulmus parvifolia**	Chinese elm
VERBENACEAE	**VERVAIN FAMILY**
*Lantana montevidensis**	trailing lantana
*Verbena tenuisecta**	fineleaf verbena
VIOLACEAE	**VIOLET FAMILY**
Viola sp.*	violet
VITACEAE	**GRAPE FAMILY**
*Tetrastigma voinierianum**	lizard vine
ZYGOPHYLLACEAE	**CALTROP FAMILY**
*Tribulus terrestris**	puncture vine
ANGIOSPERMS (MONOCOTYLEDONS)	
AGAVACEAE	**AGAVE FAMILY**
Agave desertii (ornamental)*	agave
ARECACEAE	**PALM FAMILY**
*Archontophoenix cunninghamiana**	king palm
Phoenix sp.*	date palm
*Washingtonia robusta**	Mexican fan palm
Washingtonia sp.	fan palm
CYPERACEAE	**SEDGE FAMILY**
Cyperus eragrostis	tall cyperus
*Cyperus involucratus**	umbrella-plant
JUNCACEAE	**RUSH FAMILY**
Juncus xiphioides	iris-leaved rush
LILIACEAE	**LILY FAMILY**
*Yucca elephantipes**	giant yucca
Yucca whipplei	Our Lord's candle

Scientific Name	Common Name
POACEAE	**GRASS FAMILY**
*Agrostis stolonifera**	redtop
*Arundo donax**	giant reed
*Avena barbata**	slender wild oat
Bromus carinatus	California brome
*Bromus diandrus**	ripgut grass
*Bromus hordeaceus**	soft chess
Bromus madritensis ssp. *rubens**	foxtail chess
*Cynodon dactylon**	Bermuda grass
*Digitaria sanguinalis**	hairy crabgrass
Distichlis spicata	saltgrass
*Festuca arundinacea**	tall fescue
*Hordeum murinum**	glaucous foxtail barley
Melica imperfecta	coast range melic
Paspalum sp.*	dallis grass
*Pennisetum setaceum**	fountain grass
*Piptatherum miliaceum**	smilo grass
*Poa annua**	annual bluegrass
*Polypogon monspeliensis**	annual beard grass
*Schismus barbatus**	Mediterranean schismus
*Sorghum halepense**	Johnsongrass
*Vulpia myuros**	fescue
TYPHACEAE	**CATTAIL FAMILY**
Typha domingensis	slender cattail

** Indicates non-native species.*

APPENDIX B – WILDLIFE SPECIES OBSERVED/DETECTED ONSITE

Wildlife Species Observed/Detected During the Biological Reconnaissance Survey in the Devil's Gate Survey Area

Scientific Name	Common Name
CLASS AMPHIBIA	**AMPHIBIANS**
BUFONIDAE	**True Toads**
Bufo boreas	western toad
HYLIDAE	**Treefrogs**
Hyla cadaverina	California treefrog
CLASS REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**FENCE, ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNY LIZARDS**
Uta stansburiana	Common side-blotch lizard
Sceloporus occidentalis	western fence lizard
TEIIDAE	**WHIPTAILS**
Aspidoscelis tigris	western whiptail
COLUBRIDAE	**COLUBRID SNAKES**
Thamnophis hammondii	two-striped garter snake
CLASS AVES	**BIRDS**
ANATIDAE	**DUCKS, GEESE, SWANS**
Anas platyrhynchos	mallard
ODONTOPHORIDAE	**NEW WORLD QUAIL**
Callipepla californica	California quail
ARDEIDAE	**HERONS, EGRETS**
Egretta thula	snowy egret
CARTHARTIDAE	**VULTURES**
Cathartes aura	turkey vulture
ACCIPTRIDAE	**HAWKS, EAGLES, HARRIERS**
Accipiter cooperii	Cooper's hawk
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
FALCONIDAE	**FALCONS**
Falco sparverius	American kestrel
CHARADRIIDAE	**PLOVERS**
Charadrius vociferus	killdeer
COLUMBIDAE	**DOVES, PIGEONS**
Columba livia	rock pigeon
Zenaida macroura	mourning dove
PSITTACIDAE	**PARROTS, PARAKEETS, RELATIVES**
Amazona viridigenalis	red-crowned parrot
APODIDAE	**SWIFTS**

Scientific Name	Common Name
Aeronautes saxatalis	white-throated swift
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**WOODPECKERS**
Melanerpes formicivorus	acorn woodpecker
Picoides pubescens	downy woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**
Contopus sordidulus	western wood-pewee
Empidonax difficilis	pacific-slope flycatcher
Sayornis nigricans	black phoebe
Myiarchus cinerascens	ash-throated flycatcher
VIREONIDAE	**VIREOS**
Vireo huttoni	Hutton's vireo
HIRUNDINIDAE	**SWALLOWS**
Stelgidopteryx serripennis	northern rough-winged swallow
Hirundo rustica	barn swallow
CORVIDAE	**JAYS, CROWS, RAVENS**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
PARIDAE	**CHICKADEES**
Baeolophus inornatus	oak titmouse
AEGITHALIDAE	**BUSHTITS**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**WRENS**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
SYLVIIDAE	**Gnatcatchers and Relatives**
Polioptila caerulea	blue-grey gnatcatcher
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
STURNIDAE	**STARLINGS**
Sturnus vulgaris	European starling
PTILOGONATIDAE	**SILKY FLYCATCHERS**
Phainopepla nitens	phainopepla
PARULIDAE	**WOOD WARBLERS**
Vermivora celata	orange-crowned warbler
Dendroica petechia	yellow warbler
Geothlypis trichas	common yellowthroat

Scientific Name	Common Name
EMBERIZIDAE	**NEW WORLD SPARROWS, TOWHEES, REILATIVES**
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
CARDINALIDAE	**CARDINALS, RELATIVES**
Pheucticus melanocephalus	black-headed grosbeak
ICTERIDAE	**BLACKBIRDS, GRACKLES, ORIOLES**
Agelaius phoeniceus	red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	brown-headed cowbird
Icterus bullockii	Bullock's oriole
FRINGILLIDAE	**FINCHES**
Carduelis psaltria	lesser goldfinch
Carpodacus mexicanus	house finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus	house sparrow
ESTRILDIDAE	**WAXBILLS AND RELATIVES**
Lonchura punctulata	nutmeg mannikin
CLASS MAMMALIA	**MAMMALS**
DIDELPHIDAE	**NEW WORLD OPOSSUMS**
Didelphis virginiana	Virginia opossum
LEPORIDAE	**RABBITS, HARES**
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS, CHIPMONKS, MARMOTS**
Sciurus griseus	western gray squirrel
Spermophilus beecheyi	California ground squirrel
CANIDAE	**CANINES, WOLVES, FOXES**
Canis familiaris	domestic dog
Canis latrans	coyote
Urocyon cinereoargenteus	grey fox
PROCYONIDAE	**RACCOONS**
Porocyon lotor	Raccoon
MUSTELIDAE	**WEASELS, SKUNKS, OTTERS**
Mephitis mephitis	striped skunk
FELIDAE	**FELINES**
Lynx rufus	bobcat
CERVIDAE	**DEER**
Odocoileus hemionus	mule deer
EQUIDAE	**HORSES, BURROS**
Equus caballus	horse

APPENDIX C – SITE PHOTOGRAPHS

APPENDIX C – SITE PHOTOGRAPHS

Photo 1: Photo taken looking northwest depicting the Arroyo Seco stream in the Devil's Gate Reservoir directly behind the dam wall. Scoured and Black Willow Series vegetation communities are within the reservoir along the ephemeral stream.

Photo 2: Photo depicts Riparian herbaceous community with Mulefat Scrub behind it and Oak Woodland on the slopes in the background.

Photo 3: Photo taken looking east depicting one of the many inactive retention basins within the reservoir and Survey Area. This was the only basin that contained water. The water in the basin was a result of rain water and is dry most of the year. The basin is surrounded by disturbed Upland vegetation.

Photo 4: Photo depicting disturbed areas and Coastal Sage Scrub communities. Residential areas border the reservoir on the east.

APPENDIX B

2013 Focused Protocol Surveys for Least Bell's Vireo at the Devil's Gate Reservoir

October 14, 2013
(20592)

Thomas Budinger
Water Resources Division
County of Los Angeles Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

SUBJECT: FOCUSED PROTOCOL SURVEYS FOR LEAST BELL'S VIREO AT THE DEVIL'S GATE RESERVOIR, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Budinger:

Chambers Group, Inc. (Chambers Group) biologists conducted focused surveys for least Bell's vireo (*Vireo bellii pusillus,* LBVI) for the Devil's Gate Reservoir Sediment Removal and Management Project (Project) located in the city of Pasadena, Los Angeles County, California. The results of the surveys are presented in this letter report.

PROJECT LOCATION

The proposed Project site is located in the Devil's Gate Reservoir in the City of Pasadena, in Los Angeles County, California, on Assessor's Parcel Numbers 5823015902, 5823004900, 5823003911, 5823003910, 5823003907, 5823003909, and 5823031900. The Project site can be found in the La Cañada, San Pascual-Grafias, and San Rafael special survey areas in the California United States Geological Survey (USGS) 7.5-minute *Pasadena* topographic quadrangle (Attachment 1).

PROJECT DESCRIPTION

The proposed Project would remove sediment from the Devil's Gate Reservoir. Sediment would be removed from an approximate 124-acre excavation area within the reservoir (Attachment 2). The excavation area is a combination of bare ground, with some native and non-native vegetation. This area behind the Devil's Gate Dam is inundated seasonally, and some of the vegetation is regularly washed out by storm flows. The accumulated sediment will be removed with construction equipment including but not limited to: bulldozers, front-end loaders, scrapers, and trucks. Depending on the moisture of the sediment removed, the sediment may need to be stockpiled for drying to occur. Stockpiling of the sediment would occur on-site, within the Devil's Gate Reservoir.

LEAST BELL'S VIREO NATURAL HISTORY

The LBVI was state listed as an endangered subspecies of Bell's vireo by the California Department of Fish and Wildlife (CDFW) in 1980 and federally listed as endangered by the United States Fish and Wildlife

SANTA ANA LOS ANGELES REDLANDS PALM DESERT SAN DIEGO EL CENTRO RENO
CORPORATE OFFICE 5 Hutton Centre Drive, Suite 750 | Santa Ana, California 92707
t | 949.261.5414 f | 714.545.2255 w | www.chambersgroupinc.com

Service (USFWS) in 1986. Critical habitat for the LBVI was designated by USFWS in 1994. The LBVI subspecies is restricted to coastal and inland southern California and Baja California, Mexico. Its winter range extends along the Pacific coast from northern Mexico south to northern Nicaragua.

The LBVI is a small, gray songbird with pale yellow wash on its sides, two faint wing bars, and a faint eye ring. Preferred nesting habitat is low, dense, scrubby vegetation in early successional areas that are particularly dependent on riparian areas. Habitats may include willow woodlands and dense mule fat (*Baccharis salicifolia* subsp. *salicifolia*), scrub oak (*Quercus berberidifolia*), coastal chaparral, and mesquite (*Prosopis* sp.) patches with dense, early successional understories. The two major factors in the decline of LBVI populations are loss of habitat and nest parasitism by the brown-headed cowbird (*Molothrus ater*).

SURVEY HISTORY

A biological reconnaissance-level survey conducted by Chambers Group on May 27, 2010, determined that suitable habitat for LBVI was present within the Project site (Chambers Group 2010a). Focused surveys for LBVI were then conducted in 2010 (Chambers Group 2010b) with negative results.

In July 2012, an adult and a juvenile were observed in the proposed Project site during the week of July 15, 2012 (CDFW 2013). Because LBVI have high site fidelity, and are likely to return to the same site to breed every year, focused surveys for LBVI were conducted in 2013 to determine if they are breeding within the Project site.

METHODS

Focused surveys were conducted within habitat that was determined to be suitable for LBVI by the surveying biologist. The reconnaissance-level survey on May 27, 2010 identified vegetation communities associated with LBVI, and the vegetation community map was updated in May 2013 by Chambers Group botanists.

Eight focused LBVI surveys were conducted at least 10 days apart by Chambers Group qualified biologists Linette Lina and Corey Vane, who are familiar with the songs, whisper songs, calls, scolds, and visual identification of least Bell's vireo. The focused surveys were conducted according to USFWS guidelines (USFWS 2001).

All surveys were conducted on foot by looking and listening for LBVI in all suitable riparian habitats within the Project site (Attachment 3). Surveys were conducted during favorable weather conditions. Surveys were not conducted during excessive heat, cold, wind, rain, or other inclement weather that would be reasonably expected to reduce bird activity and consequential detection. No more than 3 linear kilometers or 50 hectares of suitable habitat were surveyed during any single survey day.

Observations of the songs, scolds, whisper calls, flight patterns, behaviors, and plumage characteristics were used in conjunction to ascertain presence/absence of LBVI. Biologists conducted the surveys from optimal stationary locations to see and hear LBVI without harming any other wildlife species in the area.

The locations of any LBVI and other sensitive species were documented and mapped (Attachment 4), and California Natural Diversity Database (CNDDB) forms were prepared (Attachment 5). If leg bands were observed, they were noted. Observations and numbers of brown-headed cowbirds also were noted and mapped (Attachment 4). All observed wildlife species were documented (Attachment 6).

RESULTS

Vegetation Communities

The Project site is a flood control basin consisting of riparian and ruderal communities plus large scoured areas created from landslides and runoff after the 2009 Station Fire. The Project site is surrounded by upland vegetation communities, developed parkland (Hahamongna Watershed Park), residential and business developments, and foothills to the northeast. Approximately 64.59 acres (26.12 hectares) of suitable habitat (riparian woodland, mule fat scrub, riparian herbaceous habitat) for LBVI were present within the Project site (Attachment 3). The riparian habitats that are suitable for LBVI are discussed below. Plant communities and associations are described with the categories set forth in *A Manual of California Vegetation* (Holland 1986; Gray and Bramlet 1992). Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012).

Riparian Woodland / Black Willow Series

Black Willow Series, as described by Sawyer and Keeler-Wolf (1995), exists when black willow (*Salix gooddingii*) is the sole dominant shrub or tree in the canopy. This community occurs in habitats seasonally flooded and saturated with freshwater. This community occurs in floodplains along rivers and streams and on the edges of meadows. Species that usually occur with black willow include California sycamore (*Platanus racemosa*), coyote brush (*Baccharis pilularis*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra* subsp. *caerulea*), mule fat (*Baccharis salicifolia*), white alder (*Alnus rhombifolia*), and other willows (*Salix* sp.).

In 2010, the southern half of the proposed Project site was primarily composed of the Black Willow Series. In 2013, this series is present in large and small patches throughout the proposed Project site. Black willow is dominant in this community. Other native species include mule fat, Fremont cottonwood, black cottonwood (*Populus trichocarpa),* white alder, red willow (*Salix laevigata*), and California dodder (*Cuscuta californica*). Non-native species in this community include gum tree (*Eucalyptus* sp.) and tree tobacco (*Nicotiana glauca*). Portions of this community are lacking secondary structure due to unstable sediment accumulation and subsequent scouring during storm events.

Mule Fat Scrub

Mule Fat Scrub consists of dense stands of mule fat with lesser amounts of willow species. This community type is classified as a mixed evergreen-deciduous shrubland with a continuous canopy and a sparse understory. This community typically occupies intermittent streambeds and seeps; and it occurs at elevations ranging from sea level to 4,100 feet amsl (Holland 1986; Gray and Bramlet 1992).

The Mule Fat Scrub community was present in the proposed Project site during both surveys. The native plant species found include mule fat and black willow. Non-native species found within this community in the proposed Project site include Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), and short-podded mustard *(Hirschfeldia incana*).

Riparian Herbaceous

Riparian Herbaceous vegetation is an early successional stage of willow scrub and riparian forest communities. Flooding (or other disturbance factors) often scours woody riparian vegetation away, and the site is rapidly colonized by pioneer wetland herbaceous plants (Gray and Bramlet 1992).

In 2010, sparse riparian herbaceous vegetation was present in the northern half of the proposed Project site. In 2013, riparian herbaceous vegetation was found near the face of the dam. Native plant species found in this community include emergent mule fat, black willow, and red willow. Nonnative plant species in this community include curly dock (*Rumex crispus*), wild radish (*Raphanus sativus*), and short-podded mustard.

Survey Conditions

Survey conditions are presented in Table 1.

Table 1: Survey Conditions

Date	Surveyor	Time		Temperature		Wind		Cloud Cover		Precipitation	
		Start	End	Start	End	Start	End	Start	End	Start	End
04/15/13	Linette Lina	6:45 A.M.	7:30 A.M.	Canceled due to light rain and reduced visibility. Second attempt on 4/17/13.							
04/17/13	L. Lina	6:20 A.M.	11:15 A.M.	50.5	67.0	1-2	2-3	0%	0%	0	0
04/29/13	L. Lina	6:40 A.M.	11:15 A.M.	54.7	71.3	1-2	0-1	100%	0%	Foggy (visible to 600ft)	0
05/13/13	L. Lina	6:20 A.M.	11:00 A.M.	61.9	94.3	0-1	3-4	0%	0%	0	0
05/23/13	L. Lina	6:00 A.M.	1:00 P.M.	58.0	67.4	0	2-3	95%	90%	0	0
06/05/13	L. Lina	6:10 A.M.	11:45 A.M.	60.3	73.5	0	3-4	100%	0%	0	0
06/17/13	L. Lina, Corey Vane	6:20 A.M.	12:20 P.M.	55	77.7	0	1	0%	0%	0	0
06/27/13	L. Lina	6:20 A.M.	11:45 A.M.	65.0	89.1	0	4-5	0%	0%	0	0
07/09/13	L. Lina	5:55 A.M.	11:30 A.M.	62.9	92.0	0	4	0%	15%	0	0

*All temperature readings are in Fahrenheit
**All wind readings are in miles per hour

Least Bell's Vireo

One LBVI male was observed within the Project site (Attachment 4) during the April 29, May 23, June 5 and 17, 2013 surveys. No leg bands were observed. The LBVI male was extremely vocal, continuously singing throughout the mornings, and appeared to be very territorial. It did not appear to be paired, however, and no nesting behavior was observed.

The individual was mostly observed within the southwestern region of the Project site, within a disturbed patch of three- to four-year old willows within a thick understory of short-podded mustard and poison hemlock (GPS coordinates UTM NAD 83 Zone 11S 0391551 E 3783645 N). It also occupied the western border of the Project site, within more mature black willows. During the May 23, 2013 survey, however, it was observed in the southeastern region of the Project site (GPS coordinates approximately UTM NAD 83 Zone 11S 0391875 E 3783523 N). It flew to different locations within the Riparian Woodland in the southern region, singing continuously and eventually returning to the southwestern region of the Project site. The LBVI male appeared to expand its territory due to the lack of competition from other LBVI males and in order to attempt to find a LBVI female.

Shortly before the June 17, 2013 survey, recreational activities within the Project site increased dramatically due to the initiation of children's summer camps within Hahamongna Watershed Park and the flood control reservoir. Camp activities, including clearing vegetation for children's play areas within the Riparian Woodland, cutting new trails through the occupied LBVI habitat, and increasing sound disturbance within the occupied LBVI habitat, may have possibly caused it to disperse from the Project site. The LBVI was no longer observed during the June 27 or July 9, 2013 surveys.

Other Sensitive Species

Yellow Warbler

Territorial and paired yellow warblers (*Setophaga petechia*) were incidentally observed during several surveys (Attachment 4). The maximum number observed was 10 individuals, during the June 17, 2013, survey (Attachment 5).

Yellow-breasted Chat

Yellow-breasted chats (*Icteria virens*) were incidentally observed in two locations during the focused surveys (Attachments 4 and 5). One was observed in the western region of the Project site during the April 29, 2013 survey. One was observed in the southwestern region of the Project site during the June 27 and July 9, 2013 surveys. The singing yellow-breasted chat in the southwestern region is presumed to be the same individual and since it was observed later in the breeding season, is presumed to be territorial.

Brown-Headed Cowbird

Brown-headed cowbirds were observed throughout the survey area during several surveys (Attachment 4). The maximum number of brown-headed cowbirds detected during any one survey visit was 10 individuals, scattered throughout the Project site during the June 17, 2013, survey.

CONCLUSION

One territorial LBVI male was present within the Project site that did not appear to be paired or nesting during the 2013 season.

Please contact me at (949) 261-5414 ext. 7242 if you have any questions or concerns regarding these results.

Sincerely,

CHAMBERS GROUP, INC.

Linette Lina
Biologist

ENCLOSURES

Attachment 1 – Project Vicinity
Attachment 2 – Project Location
Attachment 3 – LBVI Survey Area
Attachment 4 – LBVI Survey Results Map
Attachment 5 – CNDDB Forms
Attachment 6 – Wildlife Species Observed

REFERENCES

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (editors)
2012 *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, CA.

Chambers Group, Inc.
2010a *Biological Technical Report for the Devil's Gate Reservoir Project Site in the City of Pasadena, Los Angeles County, California.* Chambers Group, Inc., Santa Ana, CA. Prepared for the County of Los Angeles Department of Public Works.

2010b *2010 Focused Least Bell's Vireo Survey Report for the Devil's Gate Reservoir Project in the City of Pasadena, Los Angeles County, CA.* Chambers Group, Inc., Santa Ana, CA. Prepared for the County of Los Angeles Department of Public Works.

California Department of Fish and Wildlife (CDFW)
2011 *Special Animals*. January 2011.

2013 California Natural Diversity Database, Rarefind 4. Biogeographic Data Branch, Sacramento, CA.

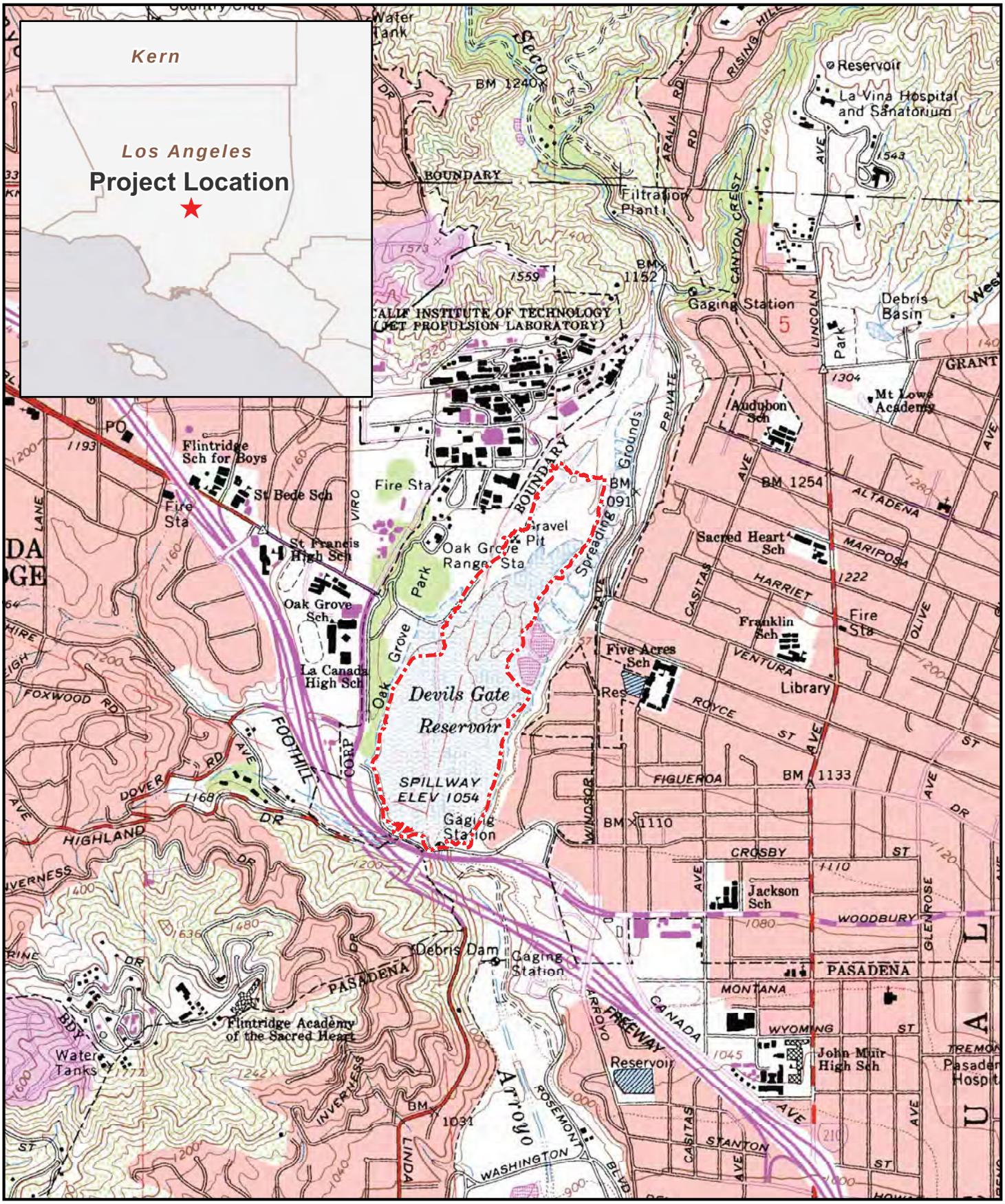
Gray, J. and D. Bramlet
1992 *Habitat Classification System, Natural Resources, Geographic Information System (GIS) Project*. County of Orange Environmental Management Agency, Santa Ana, California.

Grinnell, J. and A.H. Miller.
1944 The distribution of the birds of California. *Pacific Coast Avifauna* No. 27. 1-608

Holland, R.F.
1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Unpublished report available from California Department of Fish and Wildlife, Sacramento, California.

U.S. Fish and Wildlife Service (USFWS)
2001 *Least Bell's Vireo Survey Guidelines*. Carlsbad Fish and Wildlife Office.

ATTACHMENT 1 – PROJECT VICINITY



Project Area

N

0 500 1,000 2,000

Feet

Attachment 1

Devil's Gate Reservoir Sediment Removal and Management Project

Project Vicinity Map

Name: 20592 Attachment 1 Project Vicinity Map.Mxd
Print Date: 10/3/2013, Author: phuls

CHAMBERS GROUP

ATTACHMENT 2 – PROJECT LOCATION

Project Area

Attachment 2

Devil's Gate Reservoir Sediment Removal and Management Project

Project Location Map

0 500 1,000 2,000

Feet

Name: 20592 Attachment 2 Project Location Map.Mxd
Print Date: 10/3/2013, Author: stondre

CHAMBERS GROUP

ATTACHMENT 3 – LBVI SURVEY AREA

LBVI Survey Area

Proposed Project Boundary

N

0 250 500 1,000

Feet

Attachment 3

Devil's Gate Reservoir Sediment Removal and Management Project

LBVI Survey Area Map

Name: 20592 Attachment 3 Project Survey Area Map.Mxd
Print Date: 10/10/2013, Author: stondre

CHAMBERS GROUP

ATTACHMENT 4 – LBVI SURVEY RESULTS MAP

Project Area
Survey Area
Least Bell's Vireo Territory
Least Bell's Vireo
Yellow-breasted Chat
Yellow Warbler
Brown-headed Cowbird

N

0 250 500 1,000
Feet

Attachment 4

Devil's Gate Sediment Removal Project

LBVI Survey Results Map

Name: 20592 Attachment 4 Survey Results Map.Mxd
Print Date: 8/27/2013, Author: phuls

CHAMBERS GROUP

ATTACHMENT 5 – CNDDB FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/09/2013

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: Least Bell's Vireo

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? 348 Yes, Occ. # ☐ no ☐ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Linette Lina
Address: 5 Hutton Centre Dr. Suite 750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: (949) 261-5414

Plant Information

Phenology: 50 % vegetative 25 % flowering 25 % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☑ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Devil's Gate Reservoir/Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr.: County of Los Angeles
Quad Name: Pasadena Elevation: 320 m
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): ArcGIS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: 0391551 E 3783645 N

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riparian Woodland dominated by Salix goodingii, Baccharis salicifolia, Conium maculatum, Hirshfeldia incana.

One territorial male observed singing continuously in same area during several survey visits. No female, nest, or young observed. No leg bands observed.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, recreation

Threats: Flood control activities including sediment removal, park maintenence, recreational activities, brown-headed cowbirds

Comments: Individual was observed during focused Least Bell's Vireo surveys on 4/29, 5/23, 6/5, and 6/17 surveys.

Determination *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Known vocalizations and visual characteristics

Photographs *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/09/2013

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Icteria virens*

Common Name: Yellow-breasted Chat

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Linette Lina
Address: 5 Hutton Centre Dr. Suite 750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: (949) 261-5414

Plant Information

Phenology: 50 % vegetative 25 % flowering 25 % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☑ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Devil's Gate Reservoir/Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr.: County of Los Angeles
Quad Name: Pasadena Elevation: 320 m
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): ArcGIS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: Latitude: 34.187331 Longitude: -118.176290

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Riparian Woodland dominated by Salix goodingii, Baccharis salicifolia, Conium maculatum, Hirshfeldia incana.

One territorial male observed singing in same area over two site visits in June and July.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, recreation

Threats: Flood control activities including sediment removal, park maintenence, recreational activities

Comments: Incidental observations during biological surveys for other species, on 6/27 and 7/09 site visits. Because of the late season dates of observation, this individual is presumed to be territorial.

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Known vocalizations and visual characteristics

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/09/2013

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Setophaga petechia*

Common Name: Yellow Warbler

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 12 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Linette Lina
Address: 5 Hutton Centre Dr. Suite 750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: (949) 261-5414

Plant Information

Phenology: 50 % vegetative 25 % flowering 25 % fruiting

Animal Information

12 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☑ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Devil's Gate Reservoir/Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr.: County of Los Angeles
Quad Name: Pasadena Elevation: 320 m
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): ArcGIS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates: See attached map.

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Riparian Woodland dominated by Salix goodingii, Baccharis salicifolia, Conium maculatum, Hirshfeldia incana.

Territorial males observed singing and perching in roughly the same areas over several survey visits. Occasional female observed.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor
Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area
Visible disturbances: Scouring from flood events, recreation
Threats: Flood control activities including sediment removal, park maintenence, recreational activities
Comments: Incidental observations during biological surveys for other species, from 4/15 through 7/09/13. No nests observed, but the species is presumed to breed in the area because of territorial behavior and residence from Spring through early Summer.

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Known vocalizations and visual characteristics

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

ATTACHMENT 6 – WILDLIFE SPECIES OBSERVED

Attachment 6:
Wildlife Species Observed

Scientific Name	Common Name
CLASS AMPHIBIA	**AMPHIBIANS**
BUFONIDAE	**TRUE TOADS**
Anaxyrus boreas halophilus	California toad
CLASS REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNY LIZARDS**
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
TEIIDAE	**WHIPTAIL LIZARDS**
Aspidoscelis tigris stejnegeri	coastal whiptail
COLUBRIDAE	**COLUBRID SNAKES**
Salvadora hexalepis virgultea	coast patchnose snake
CLASS AVES	**BIRDS**
ANATIDAE	**DUCKS, GEESE, SWANS**
Anas platyrhynchos	Mallard
Branta canadensis	Canada goose
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
ODONTOPHORIDAE	**NEW WORLD QUAIL**
Callipepla californica	California quail
CHARADRIIDAE	**PLOVERS**
Charadrius vociferus	killdeer
COLUMBIDAE	**PIGEONS & DOVES**
Columba livia	rock pigeon*
Zenaida macroura	mourning dove
APODIDAE	**SWIFTS**
Aeronautes saxatalis	white-throated swift
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
ALCEDINIDAE	**KINGFISHERS**
Megaceryle alcyon	belted kingfisher
PICIDAE	**WOODPECKERS**
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
Picoides pubescens	downy woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**

Attachment 6:
Wildlife Species Observed

Scientific Name	Common Name
Contopus sordidulus	western wood-pewee
Empidonax difficilis	Pacific-slope flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
CORVIDAE	**JAYS & CROWS**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
PARIDAE	**CHICKADEES, TITMICE**
Baeolophus inornatus	oak titmouse
AEGITHALIDAE	**BUSHTITS**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**WRENS**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
SYLVIIDAE	**OLD WORLD WARBLERS**
Chamaea fasciata	wrentit
POLIOPTILIDAE	**GNATCATCHERS**
Polioptila caerulea	blue-gray gnatcatcher
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
STURNIDAE	**STARLINGS**
Sturnus vulgaris	European starling*
VIREONIDAE	**VIREOS**
Vireo bellii pusillus	least bell's vireo
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo
PARULIDAE	**WOOD WARBLERS**
Oreothlypis celata	orange-crowned warbler
Setophaga coronata	yellow-rumped warbler
Setophaga nigrescens	black-throated gray warbler
Setophaga petechia	yellow warbler
Cardellina pusilla	Wilson's warbler

Attachment 6:
Wildlife Species Observed

Scientific Name	Common Name
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
ICTERIDAE	**BLACKBIRDS**
Agelaius phoeniceus	red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Icterus bullockii	Bullock's oriole
Molothrus ater	brown-headed cowbird
EMBERIZIDAE	**EMBERIZIDS**
Melospiza melodia	song sparrow
Passerculus sandwichensis	savannah sparrow
Melozone crissalis	California towhee
Pipilo maculatus	spotted towhee
Zonotrichia leucophrys	white-crowned sparrow
CARDINALIDAE	**CARDINALS**
Piranga ludoviciana	western tanager
Pheucticus melanocephalus	black-headed grosbeak
Passerina caerulea	blue grosbeak
Passerina amoena	lazuli bunting
PSITTACIDAE	**PARROTS**
Amazona sp.	Parrot*
FRINGILLIDAE	**FINCHES**
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
Carpodacus mexicanus	house finch
Carpodacus purpureus	purple finch
TURDIDAE	**THRUSHES**
Turdus migratorius	American robin
ESTRILDIDAE	**ESTRILDID FINCHES**
Lonchura punctulata	nutmeg manikin*
PTILOGONATIDAE	**SILKY-FLYCATCHERS**
Phainopepla nitens	phainopepla
CLASS MAMMALIA	**MAMMALS**
CANIDAE	**WOLVES & FOXES**
Canis latrans	coyote
LEPORIDAE	**HARES & RABBITS**
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS**
Sciurus griseus	western gray squirrel
Sciurus niger	eastern fox squirrel*

Attachment 6:
Wildlife Species Observed

Scientific Name	Common Name
Spermophilus beecheyi	California ground squirrel
FELIDAE	**CATS**
Lynx rufus	bobcat

*Non-native species

APPENDIX C

2014 Focused Survey Report for Least Bell's Vireo and Southwestern Willow Flycatcher at the Devil's Gate Reservoir

December 22, 2014
(20767)

Thomas Budinger
Water Resources Division
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

SUBJECT: 2014 FOCUSED SURVEY REPORT FOR LEAST BELL'S VIREO AND SOUTHWESTERN WILLOW FLYCATCHER AT THE DEVIL'S GATE RESERVOIR, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Budinger:

Chambers Group, Inc. (Chambers Group) biologists conducted focused surveys for least Bell's vireo (*Vireo bellii pusillus,* LBVI) and southwestern willow flycatcher (*Empidonax traillii extimus*, SWFL) in 2014 for the Devil's Gate Reservoir Sediment Removal and Management Project (Project) located in the city of Pasadena, Los Angeles County, California. The results of the surveys are presented in this letter report.

SURVEY LOCATION

The survey area is located in the Devil's Gate Reservoir in the city of Pasadena in Los Angeles County, California, on Assessor's Parcel Numbers 5823015902, 5823004900, 5823003911, 5823003910, 5823003907, 5823003909, and 5823031900. Devil's Gate Reservoir is found in the La Cañada, San Pascual-Grafias, and San Rafael special survey areas in the California United States Geological Survey (USGS) 7.5-minute *Pasadena* topographic quadrangle. A map of the survey area is provided in Attachment 1.

LEAST BELL'S VIREO NATURAL HISTORY

The LBVI was state listed as an endangered subspecies of Bell's vireo by the California Department of Fish and Wildlife (CDFW) in 1980 and federally listed as endangered by the United States Fish and Wildlife Service (USFWS) in 1986. Critical habitat for the LBVI was designated by USFWS in 1994. The LBVI subspecies is restricted to coastal and inland southern California and Baja California, Mexico. Its winter range extends along the Pacific coast from northern Mexico south to northern Nicaragua.

The LBVI is a small, gray songbird with pale yellow wash on its sides, two faint wing bars, and a faint eye ring. Preferred nesting habitat is low, dense, scrubby vegetation in early successional areas that are particularly dependent on riparian areas. Habitats may include willow woodlands and dense mule fat (*Baccharis salicifolia* subsp. *salicifolia*), scrub oak (*Quercus berberidifolia*), coastal chaparral, and mesquite (*Prosopis* sp.) patches with dense, early successional understories. The two major factors in the decline of LBVI populations are loss of habitat and nest parasitism by the brown-headed cowbird (*Molothrus ater*).

SOUTHWESTERN WILLOW FLYCATCHER NATURAL HISTORY

The SWFL is federally and state listed as an endangered subspecies of willow flycatcher (*Empidonax traillii*) whose summer breeding range includes southern California (from the Santa Ynez River south), Arizona, New Mexico, extreme southern portions of Nevada and Utah, extreme southwest Colorado, and western Texas (USGS 2007). Habitat types may include a variety of willow (*Salix* spp.), cottonwood (*Populus* spp.), coast live oak (*Quercus agrifolia*), alder (*Alnus* spp.), and tamarisk (*Tamarix* spp.) woodlands. It is known to breed in a variety of multi-storied riparian habitats with canopies and surface water and/or saturated soils, whether along streams in broad valleys, in canyon bottoms, around mountain-side seepages, or at the margins of ponds and lakes (Grinnell and Miller 1944). It is safely distinguished from other members of its genus only by its characteristic "fitz-bew" song. It is a relatively nondescript flycatcher with a dark back, two faint wing bars, yellow lower mandible, faint wash of yellow on the belly, and little to no eye ring. This subspecies is in decline primarily due to extensive habitat loss and brood parasitism by the brown-headed cowbird.

SURVEY HISTORY

A biological reconnaissance-level survey conducted by Chambers Group on May 27, 2010, determined that suitable habitat for LBVI was present within Devil's Gate Reservoir (Chambers Group 2010a). Focused surveys for LBVI were then conducted in 2010 (Chambers Group 2010b) with negative results.

In July 2012, an adult and a juvenile LBVI were observed in Devil's Gate Reservoir during the week of July 15, 2012 (CDFW 2013). Chambers Group conducted focused surveys for LBVI in 2013 and detected one territorial male (Chambers Group 2013).

METHODS

Focused surveys were conducted within habitat that was determined to be suitable for LBVI and SWFL by the surveying biologist in 2014 (Attachment 2). Results from surveys conducted in 2010 and 2013 by Chambers Group that identified vegetation communities associated with LBVI and SWFL within Devil's Gate Reservoir were reviewed (Chambers Group 2010a and 2013).Plant communities and associations are described with the categories set forth in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012).

Eight focused LBVI surveys were conducted at least 10 days apart by Chambers Group qualified biologists Linette Lina and Heather Franklin, who are familiar with the songs, whisper songs, calls, scolds, and visual identification of least Bell's vireo. The focused surveys were conducted according to USFWS guidelines (USFWS 2001).

L. Lina, who is permitted to harass SWFL by survey (TE-161483-1), also conducted five SWFL surveys within the suitable habitat onsite for SWFL (concurrently with LBVI surveys, when feasible) according to *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (Sogge et al. 2010; USFWS 2010). One SWFL survey pass was conducted between May 15 and June 1 (SWFL Survey Period 1), two survey passes were conducted between June 2 and June 24 (SWFL Survey Period 2), and two survey passes were conducted between June 25 and July 17 (SWFL Survey Period 3). When L. Lina conducted surveys in suitable habitat for both SWFL and LBVI, H. Franklin surveyed for LBVI in the remaining riparian habitat suitable for LBVI only.

All surveys were conducted on foot by looking and listening for the target species in all suitable riparian habitats within the survey area (Attachment 2). Surveys were conducted during favorable weather conditions. Surveys were not conducted during excessive heat, cold, wind, rain, or other inclement weather that would be reasonably expected to reduce bird activity and consequential detection. No more than 3 linear kilometers or 50 hectares (124 acres) of suitable habitat were surveyed by each biologist during any single survey day.

Observations of the songs, scolds, whisper calls, flight patterns, behaviors, and plumage characteristics were used in conjunction to ascertain presence/absence of LBVI and SWFL. The biologists conducted the surveys from optimal stationary locations to see and hear the target species without harming any other wildlife species in the area.

L. Lina used prerecorded willow flycatcher vocalizations to elicit SWFL within and/or adjacent to all suitable SWFL habitat. (Prerecorded vocalizations were not used to determine the presence/absence of LBVI.) After a brief and silent acclimation period of one to two minutes, L. Lina broadcasted the prerecorded SWFL vocalizations at least once at each chosen location, mimicking natural vocalization conditions (i.e., broadcast at natural volume occurring for approximately 15 seconds followed by 1 to 2 minutes of silence). Distance between broadcast locations varied from 20 to 30 meters (60 to 100 feet), depending on topographic, vegetative, and other factors. If a willow flycatcher was detected, the taped vocalization broadcast was ceased at that location, and location, numbers, status, and demographic data were recorded for SWFL.

The locations of any detected LBVI, SWFL, and other sensitive species were documented and mapped (Attachment 3), and California Natural Diversity Database (CNDDB) forms and Willow Flycatcher Survey and Detection forms were prepared (Attachment 4). If leg bands were observed, they were noted. Observations and numbers of brown-headed cowbirds also were noted and mapped (Attachment 3). All observed wildlife species were recorded for each survey day (Attachment 5). Site photographs are presented in Attachment 6.

RESULTS

Vegetation Communities

The survey area is within a flood control basin consisting of riparian and ruderal communities with large scoured areas created from landslides and runoff after the 2009 Station Fire. The survey area is surrounded by upland vegetation communities, developed parkland (Hahamongna Watershed Park), residential and business developments, and foothills to the northeast. Because of the dynamic hydrologic regime and scouring, the location and acreage of the vegetation communities were different in 2014 than 2013 or 2010. The identified suitable habitats for LBVI and SWFL in 2014 are presented in Attachment 2. Approximately 35.06 acres (14.19 hectares) of suitable riparian woodland habitat for both SWFL and LBVI were present, and approximately 21.42 acres (8.67 hectares) of additional suitable habitat for only LBVI were present within the survey area (Attachment 2). The riparian habitats that are suitable for the target species are discussed below.

Black Willow Thickets

Black Willow Thickets, as described by Sawyer et al. (2009), exists when black willow (*Salix gooddingii*) is the sole dominant shrub or tree in the canopy. This community occurs in habitats seasonally flooded and saturated with freshwater. This community occurs in floodplains along rivers and streams and on the edges

of meadows. Species that usually occur with black willow include California sycamore (*Platanus racemosa*), coyote brush (*Baccharis pilularis*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra* subsp. *caerulea*), mule fat (*Baccharis salicifolia*), white alder (*Alnus rhombifolia*), and other willows (*Salix* sp.).

In 2014, this community was present in large and small patches throughout the survey area. Black willow was dominant in this community. Due to the dynamic hydraulic regime, portions of this community died out between 2013 and 2014, and much of the understory in the large patch in the southern portion of the survey area was either non-existent, or dominated by thick stands of either cocklebur (*Xanthium strumarium*) or common lambsquarters (*Chenopodium album*) (Photos 2 and 3 in Attachment 6). Due to the lack of diverse secondary structure in much of the survey area, this community provided poor quality habitat for SWFL and LBVI.

Mule Fat Thickets

Mule Fat Thickets consist of dense stands of mule fat with lesser amounts of willow species. This community type is classified as a mixed evergreen-deciduous shrubland with a continuous canopy and a sparse understory. This community typically occupies intermittent streambeds and seeps and it occurs at elevations ranging from sea level to 4,100 feet amsl (Sawyer et al. 2009).

Mule Fat Thickets were present in the survey area. The native plant species found within this community in the survey area include mule fat and black willow. Non-native species found within this community in the survey area include Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), and short-podded mustard *(Hirschfeldia incana*). In 2014, this community provided moderate quality habitat for LBVI (Photo 4 in Attachment 6).

Cocklebur Patches

Cocklebur Patches are characterized as having the native annual herb dominant in the herbaceous layer. Herbaceous species are less than 5 feet in height with open to continuous cover. This community is common in marsh habitats with regularly disturbed vernally wet ponds, fields, stream terraces. Soils are clay-rich or silty. Often cocklebur can occur with the non-native smartweed (*Persicaria lapathifolia*) in disturbed wet areas to form a provisional herbaceous alliance.

In 2010, sparse riparian herbaceous vegetation was present in the northern half of the survey area. In 2013, riparian herbaceous vegetation was found near the face of the dam. In 2014, riparian herbaceous vegetation was again found near the face of the dam in the channel where water flowed in early 2014, but it was dominated by cocklebur, and provided marginal habitat for LBVI.

Survey Conditions

Survey conditions are presented in Table 1.

Table 1. Survey Conditions

Date	Surveyor	Time		Temperature*		Wind**		Cloud Cover		Precipitation	
		Start	End	Start	End	Start	End	Start	End	Start	End
05/09/14	Linette Lina, Heather Franklin	6:30 A.M.	11:45 A.M.	51	74	0-1	0-2	5%	20%	0	0
+05/20/14	L. Lina, H. Franklin	5:50 A.M.	12:00 P.M.	58	74	1-2	1-2	100%	60%	0	0
05/30/14	L. Lina	6:00 A.M.	10:55 A.M.	52	75	0-1	2-4	0%	0%	0	0
+06/10/14	L. Lina H. Franklin	6:05 A.M.	10:45 A.M.	65	79	0-1	1-2	100%	0%	0	0
+06/20/14	L. Lina H. Franklin	6:00 A.M.	11:00 A.M.	63	76	0	0-1	0%	0%	0	0
+07/01/14	L. Lina	5:45 A.M.	11:30 A.M.	62	77	0-2	0	100%	0%	0	0
+07/11/14	L. Lina H. Franklin	6:00 A.M.	9:45 A.M.	61	73	0-1	2-4	0%	0%	0	0
07/22/14	L. Lina	6:00 A.M.	10:55 A.M.	60	76	1-2	0-2	5%	0%	0	0

*All temperature readings are in Fahrenheit
**All wind readings are in miles per hour
+ SWFL Survey conducted concurrently with LBVI Survey

Least Bell's Vireo

No LBVI were detected within the survey area during the 2014 surveys. The quality of habitat in the area that was occupied by the LBVI male in 2013 had declined in 2014 (Photo 1 in Attachment 6); however, a sufficient amount of moderate quality habitat within the survey area to support multiple LBVI territories was present.

Southwestern Willow Flycatcher

One, and possibly two, willow flycatchers of undetermined subspecies were observed in the middle of the survey area vocalizing several "fitz-bews" and "whits" and foraging during the May 20 survey (Attachments 3 and 4). However, they were detected during a period when migrant willow flycatchers may be passing through and were not detected during focused surveys before or after this date. Therefore, these willow flycatchers were presumed to be migratory instead of territorial and were presumed not breeding on site. No confirmed southwestern willow flycatchers were observed during the 2014 surveys.

Other Sensitive Species

Yellow Warbler

Several territorial and paired yellow warblers (*Setophaga petechia*) were incidentally observed during all surveys throughout the season (Attachments 3 and 4).

Yellow-breasted Chat

One yellow-breasted chat (*Icteria virens*) was incidentally observed in the southern region of the survey area during the focused surveys (Attachments 3 and 4). The individual was observed during the July 1 and July 11 surveys and was presumed to be territorial.

Other Species of Interest

Brown-headed Cowbird

Brown-headed cowbirds were observed throughout the survey area during several surveys (Attachment 3).

CONCLUSIONS

Least Bell's Vireo

No LBVI were found within the survey area during the 2014 focused surveys.

Southwestern Willow Flycatcher

Although one or two willow flycatchers were detected within the survey area during one survey, they were not detected during any of the other focused surveys and presumed to be migrating. No confirmed SWFL were detected in the survey area.

Please contact me at (949) 261-5414, ext. 7242 if you have any questions or concerns regarding these results.

Sincerely,

CHAMBERS GROUP, INC.

Linette Lina
Project Biologist

ENCLOSURES

Attachment 1 – Survey Location
Attachment 2 – Suitable Habitat

Attachment 3 –Survey Results Map
Attachment 4 – CNDDB Forms
Attachment 5 – Wildlife Species Observed
Attachment 6 – Site Photographs

REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (editors)
2012 *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, CA.

Chambers Group, Inc.
2010a *Biological Technical Report for the Devil's Gate Reservoir Project Site in the City of Pasadena, Los Angeles County, California.* Chambers Group, Inc., Santa Ana, CA. Prepared for the County of Los Angeles Department of Public Works.

2010b *2010 Focused Least Bell's Vireo Survey Report for the Devil's Gate Reservoir Project in the City of Pasadena, Los Angeles County, CA.* Chambers Group, Inc., Santa Ana, CA. Prepared for the County of Los Angeles Department of Public Works.

2013 Focused Protocol Surveys for Least Bell's Vireo at the Devil's Gate Reservoir, Los Angeles County, California. Chambers Group, Inc., Santa Ana, CA. Prepared for the County of Los Angeles Department of Public Works.

California Department of Fish and Wildlife (CDFW)
2013 California Natural Diversity Database, Rarefind 4. Biogeographic Data Branch, Sacramento, CA.

Grinnell, J. and A. H. Miller
1944 The distribution of the birds of California. *Pacific Coast Avifauna* No. 27. 1-608

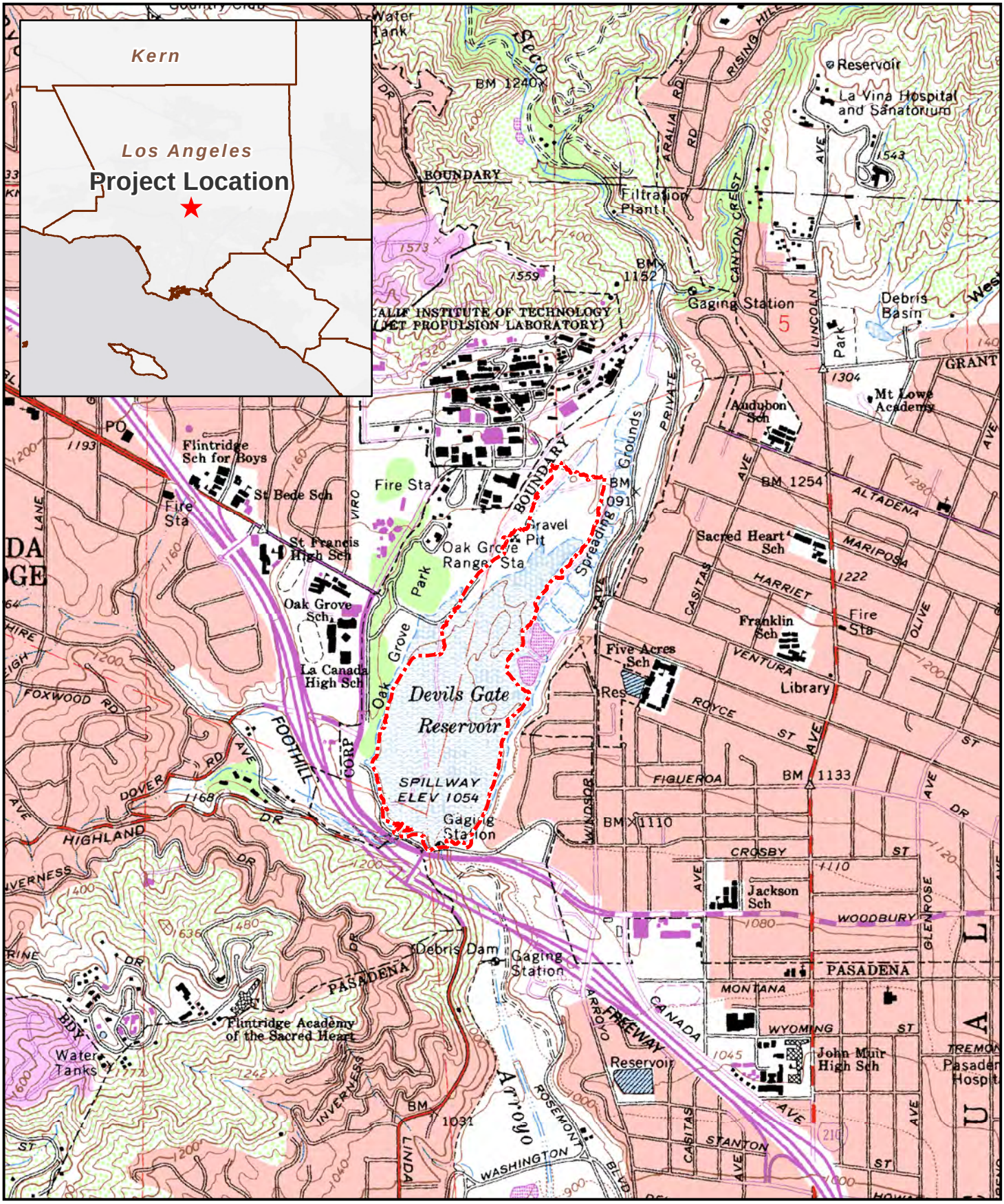
Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens
2009 *A Manual of California Vegetation, 2nd edition*. California Native Plant Society Press, Sacramento, CA.

Sogge, M. K., Darrell Ahlers, and S. J. Sferra
2010 A natural history summary and survey protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 p.

U.S. Fish and Wildlife Service (USFWS)
2001 *Least Bell's Vireo Survey Guidelines*. Carlsbad Fish and Wildlife Office.

U.S. Geological Survey (USGS)
2007 Breeding Ranges of Willow Flycatcher Subspecies. URL: http://sbsc.wr.usgs.gov/cprs/research/projects/swwf/wiflrang.asp. Accessed on June 18, 2007.

ATTACHMENT 1 – SURVEY LOCATION



Legend

Survey Area

N

0 500 1,000 2,000

Feet

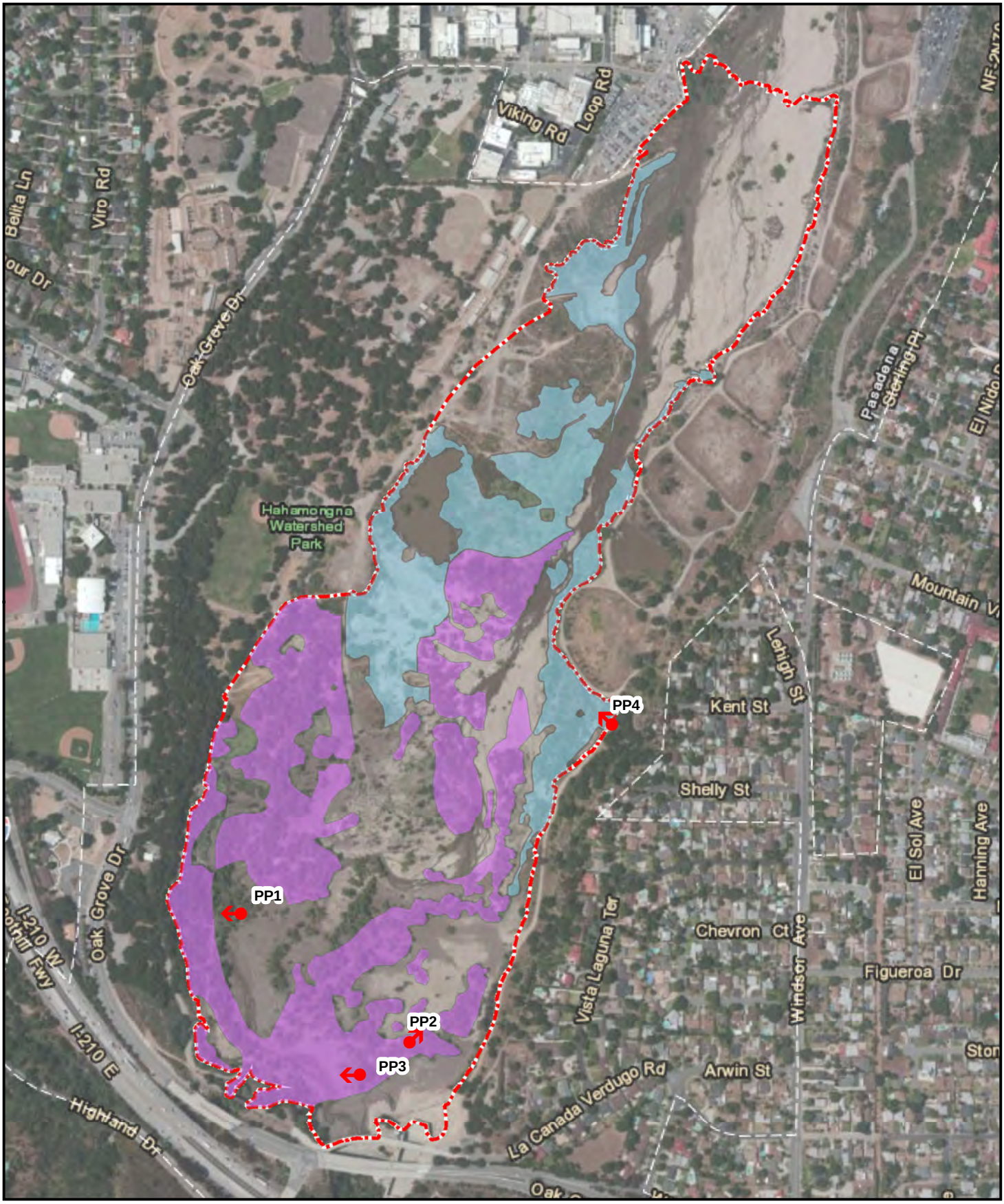
Attachment 1

Devil's Gate Reservoir Sediment Removal and Management Project
Survey Location

Name: 20767 Attach 1 Survey Location.Mxd
Print Date: 12/22/2014, Author: phuls

CHAMBERS GROUP

ATTACHMENT 2 – SUITABLE HABITAT



Legend

- Photo Point (with direction)
- Survey Area

Suitable Habitat

- LBVI Only
- LBVI and SWFL

N

0 250 500 1,000

Feet

Attachment 2

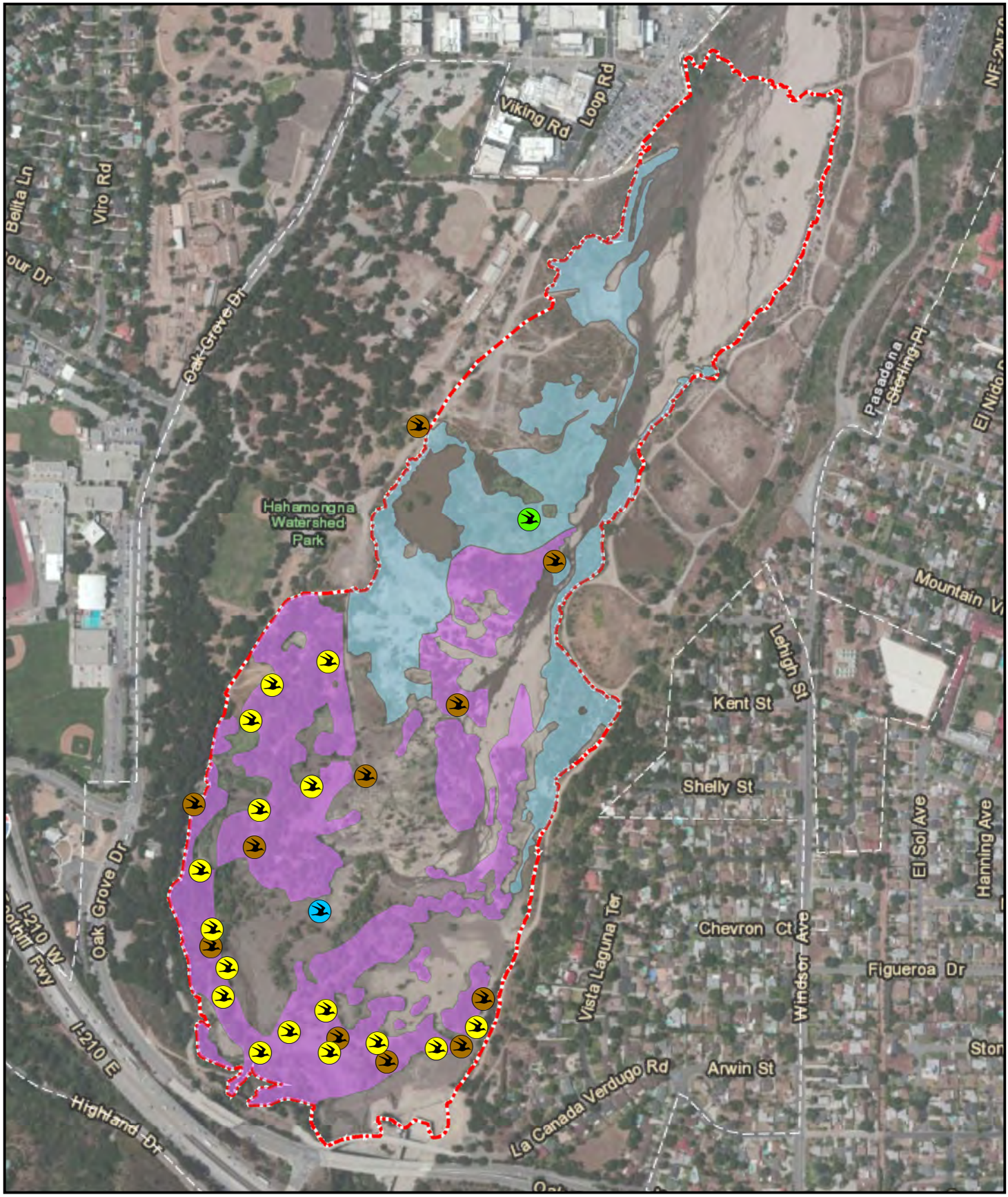
Devil's Gate Reservoir Sediment Removal and Management Project

LBVI and SWFL 2014 Suitable Habitat

Name: 20767 Attach 2 LBVI-SWFL Suit Habitat.Mxd
Print Date: 12/22/2014, Author: stondre

CHAMBERS GROUP

ATTACHMENT 3 – SURVEY RESULTS



Legend

- Survey Area

Suitable Habitat

- LBVI Only
- LBVI and SWFL

Sensitive Species Observations

- Willow Flycatcher
- Yellow Warbler
- Yellow-breasted Chat

Other Species of Interest

- Brown-headed Cowbird

N

0 250 500 1,000

Feet

Attachment 3

Devil's Gate Reservoir Sediment Removal and Management Project

LBVI and SWFL 2014 Survey Results

Name: 20767 Attach 3 LBVI-SWFL Survey Results.Mxd
Print Date: 12/22/2014, Author: stondre

CHAMBERS GROUP

ATTACHMENT 4 – CNDDB FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/22/2014

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: Least Bell's Vireo

Species Found? ☐ Yes ☑ No — Negative Focused Surveys (If not, why?)

Total No. Individuals _____ Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? 348 (Yes, Occ. #) ☐ no ☐ unk.

Collection? If yes: _____ (Number) _____ (Museum / Herbarium)

Reporter: Linette Lina
Address: 5 Hutton Centre Drive, Suite 750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: (949) 261-5414

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

# adults	# juveniles	# larvae	# egg masses	# unknown
0	0			

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Devil's Gate Reservoir/ Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr.: County of Los Angeles
Quad Name: Pasadena Elevation: 320
T 01N R 12W Sec 7, ____ ¼ of _____¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): USGS 7.5'
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☐
Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Disturbed Riparian Woodland dominated by Salix goodingii, Baccharis salicifolia, Conium maculatum, Xanthium strumarium.

No least Bell's vireos were detected.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, inundation and drawdown, recreation

Threats: Flood control activities, including sediment removal and hydrologic control, park maintenance, recreational activities, brown-headed cowbirds

Comments: Focused surveys for least Bell's vireo were conducted according to USFWS 2001 guidelines from 5/9 to 7/22/14. No least Bell's vireos were detected.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Familiarity with vocalization and visual field markings

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

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Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/11/2014

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Empidonax traillii extimus*

Common Name: Southwestern Willow Flycatcher

Species Found? ☐ Yes ☑ No — Negative Focused Surveys (If not, why?)

Total No. Individuals 0 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ (Yes, Occ. #) ☐ no ☐ unk.

Collection? If yes: _____ (Number) _____ (Museum / Herbarium)

Reporter: Linette Lina
Address: 5 Hutton Centre Drive, Suite 750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: (949) 261-5414

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

0	0			
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

Devil's Gate Reservoir/ Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr.: County of Los Angeles
Quad Name: Pasadena Elevation: 320 meters
T 01N R 12W Sec 7, ____ ¼ of _____¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): USGS 7.5'
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Disturbed Riparian Woodland dominated by Salix goodingii and Xanthium strumarium.

No confirmed southwestern willow flycatchers were observed. One, possibly two, willow flycatchers of undetermined subspecies were detected vocalizing and foraging during the 5/20/14 survey. However, because they were not detected during focused surveys before or after this date, they were presumed to be migratory instead of territorial, and were not breeding onsite.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, inundation and drawdown, recreation

Threats: Flood control activities, including sediment removal and hydrologic control, park maintenance, recreational activities, brown-headed cowbirds

Comments: Focused surveys for southwestern willow flycatcher were conducted according to USGS 2010 guidelines from 5/20 to 7/11/14. One, possibly two, willow flycatchers of undetermined subspecies were detected on 5/20 and presumed to be migrating.

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Familiarity with vocalization and visual field markings

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

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For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Icteria virens*

Common Name: Yellow-breasted Chat

Species Found? ◯ Yes ◯ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ◯ Yes ◯ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Linette Lina
Address: 5 Hutton Centre Dr. #750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: 9492615414

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☒ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Devil's Gate Reservoir/ Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr: County of Los Angeles

Quad Name: Pasadena Elevation: 320

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ◯ M ◯ S ◯ Source of Coordinates (GPS, topo. map & type): ArcGIS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ◯ M ◯ S ◯ GPS Make & Model: _____

DATUM: **NAD27** ◯ **NAD83** ◯ **WGS84** ◯ Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 ◯ UTM Zone 11 ◯ ***OR*** Geographic (Latitude & Longitude) ◯

Coordinates: Latitude: 34.18808, Longitude-118.17563

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riparian woodland dominated by Salix goodingii, Baccharis salicifolia, Xanthium strumarium.

One territorial male observed singing in same area over 2 site vists on July 1 and July 11, 2014.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ◯ Excellent ◯ Good ◯ Fair ◯ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, recreation

Threats: Flood control activities, park maintenence, recreational activities

Comments: Incidental observations during focused surveys for least Bell's vireo and southwestern willow flycatcher on July 1 and July 11 site visits. Because of the late season dates of observation, this individual is presumed to be territorial.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Known vocalizations and visual characteristics

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ◯ yes ◯ no

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Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

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Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Icteria virens*

Common Name: Yellow-breasted Chat

Species Found? ◯ Yes ◯ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ◯ Yes ◯ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Linette Lina
Address: 5 Hutton Centre Dr. #750
Santa Ana, CA 92707
E-mail Address: llina@chambersgroupinc.com
Phone: 9492615414

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☒ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Devil's Gate Reservoir/ Hahamongna Watershed Park, in the city of Pasadena between Altadena and La Canada Flintridge, north of I-210.

County: Los Angeles Landowner / Mgr: County of Los Angeles

Quad Name: Pasadena Elevation: 320

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ◯ M ◯ S ◯ Source of Coordinates (GPS, topo. map & type): ArcGIS

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ◯ M ◯ S ◯ GPS Make & Model: _____

DATUM: **NAD27** ◯ **NAD83** ◯ **WGS84** ◯ Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 ◯ UTM Zone 11 ◯ ***OR*** Geographic (Latitude & Longitude) ◯

Coordinates: Latitude: 34.18808, Longitude-118.17563

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riparian woodland dominated by Salix goodingii, Baccharis salicifolia, Xanthium strumarium.

One territorial male observed singing in same area over 2 site vists on July 1 and July 11, 2014.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ◯ Excellent ◯ Good ◯ Fair ◯ Poor

Immediate AND surrounding land use: Flood control basin, recreational park, residential area, business area

Visible disturbances: Scouring from flood events, recreation

Threats: Flood control activities, park maintenence, recreational activities

Comments: Incidental observations during focused surveys for least Bell's vireo and southwestern willow flycatcher on July 1 and July 11 site visits. Because of the late season dates of observation, this individual is presumed to be territorial.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Known vocalizations and visual characteristics

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ◯ yes ◯ no

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Site Name: **Devil's Gate Reservoir** State: **CA** County: **Los Angeles**

USGS Quad Name: **Pasadena** Elevation: **320** (meters)

Creek, River, or Lake Name: **Devil's Gate Reservoir**

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ***Yes*** **X** ***No*** ____

Survey Coordinates: Start: E **391,671** N **3,783,630** UTM Datum: **NAD83** (See instructions)

Stop: E ____ N ____ UTM Zone: **11S**

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

*****Fill in additional site information on back of this page*****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;-potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
Survey # 1	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	5/20/2014						2	M	391,948	3,784,166
Linette Lina	Start:									
Heather Franklin	5:50	2	0	0	N	Many "fitz-bews" and "whits" in response to playback. At least one, possibly two WIFL's heard.				
	Stop:									
	12:00									
	Total hrs:									
	6.0									
Survey # 2	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/10/2014									
Linette Lina	Start:									
	6:05	0	0	0	N					
	Stop:									
	10:45									
	Total hrs:									
	4.75									
Survey # 3	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/20/2014									
Linette Lina	Start:									
	6:00	0	0	0	N					
	Stop:									
	11:00									
	Total hrs:									
	5.0									
Survey # 4	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/1/2014									
Linette Lina	Start:									
	5:45	0	0	0	N					
	Stop:									
	11:30									
	Total hrs:									
	5.75									
Survey # 5	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/11/2014									
Linette Lina	Start:									
	6:00	0	0	0	N					
	Stop:									
	9:45									
	Total hrs:									
	3.75									
Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total survey hrs: 25.3		Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded? Yes ____ No **X** If yes, report color combination(s) in the comments section on back of form and report to USFWS.				
		0	0	0	0					

Reporting Individual: **Linette Lina** Date Report Completed: **10/9/2014**

US Fish & Wildlife Service Permit #: **TE161483-1** State Wildlife Agency Permit #: **SCP-008260**

***Submit** form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.*

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual **Linette Lina** Phone # **949-261-5414**

Affiliation **Chambers Group, Inc.** E-mail llina@chambersgroupinc.com

Site Name **Devil's Gate Reservoir** Date report Completed **10/9/2014**

Was this site surveyed in a previous year? Yes____ No____ Unknown__x__

Did you verify that this site name is consistent with that used in previous yrs? Yes _____ No _____ Not Applicable **x**

If name is different, what name(s) was used in the past? _____

If site was surveyed last year, did you survey the same general area this year? Yes _____ No _____ If no, summarize below.

Did you survey the same general area during each visit to this site this year? Yes _____ No _____ If no, summarize below.

Management Authority for Survey Area: Federal **x** Municipal/County **x** State _____ Tribal _____ Private _____

Name of Management Entity or Owner (e.g., Tonto National Forest) **U.S. Army Corps of Engineers, County of Los Angeles**

Length of area surveyed: _____ (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

_____ Native broadleaf plants (entirely or almost entirely, > 90% native)

x Mixed native and exotic plants (mostly native, 50 - 90% native)

_____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

_____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.

Salix Gooddingii, Xanthium strumarium

Average height of canopy (Do not include a range): **7** (meters)

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;

2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;

3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features. Attach additional sheets if necessary.

One, and possibly two, willow flycatchers of undetermined subspecies were observed vocalizing several "fitz-bews" and "whits" and foraging during the May 20 survey. However, they were detected during a period when migrant willow flycatchers may be passing through and were not detected during focused surveys before or after this date. Therefore, these willow flycatchers were presumed to be migratory instead of territorial and were presumed not breeding on site. No confirmed southwestern willow flycatchers were observed during the 2014 surveys.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

ATTACHMENT 5 – WILDLIFE SPECIES OBSERVED

Attachment 5 – Wildlife Species Observed

Scientific Name	Common Name
CLASS AMPHIBIA	**AMPHIBIANS**
BUFONIDAE	**TRUE TOADS**
Anaxyrus boreas halophilus	California toad
RANIDAE	**TRUE FROGS**
Lithobates catesbeianus	bullfrog
CLASS REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS**
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
TEIIDAE	**WHIPTAIL LIZARDS**
Aspidoscelis tigris stejnegeri	coastal whiptail
CLASS AVES	**BIRDS**
ARDEIDAE	**HERONS, BITTERNS**
Ardea herodias	great blue heron
Ardea alba	great egret
ANATIDAE	**DUCKS, GEESE, SWANS**
Anas platyrhynchos	Mallard
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
FALCONIDAE	**FALCONS**
Falco sparverius	American kestrel
PSITTACIDAE	**PARROTS**
Amazona sp.	parrot
ODONTOPHORIDAE	**NEW WORLD QUAIL**
Callipepla californica	California quail
CHARADRIIDAE	**PLOVERS**
Charadrius vociferus	killdeer
COLUMBIDAE	**PIGEONS & DOVES**
Columba livia	rock pigeon
Streptopelia decaocto	Eurasian Collared-Dove
Zenaida macroura	mourning dove
APODIDAE	**SWIFTS**
Aeronautes saxatalis	white-throated swift

Scientific Name	Common Name
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**WOODPECKERS**
Colaptes auratus	northern flicker
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
Picoides pubescens	downy woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**
Contopus cooperi	olive-sided flycatcher
Contopus sordidulus	western wood-pewee
Empidonax difficilis	Pacific-slope flycatcher
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	cliff swallow
Hirundo rustica	barn swallow
Stelgidopteryx serripennis	northern rough-winged swallow
CORVIDAE	**JAYS & CROWS**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
PARIDAE	**CHICKADEES, TITMICE**
Baeolophus inornatus	oak titmouse
AEGITHALIDAE	**BUSHTITS**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**WRENS**
Thryomanes bewickii	bewick's wren
Troglodytes aedon	house wren
SYLVIIDAE	**OLD WORLD WARBLERS**
Chamaea fasciata	wrentit
POLIOPTILIDAE	**GNATCATCHERS**
Polioptila caerulea	blue-gray gnatcatcher
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
PTILOGONATIDAE	**SILKY-FLYCATCHERS**
Phainopepla nitens	phainopepla

Scientific Name	Common Name
STURNIDAE	**STARLINGS**
Sturnus vulgaris	European starling
VIREONIDAE	**VIREOS**
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo
PARULIDAE	**WOOD WARBLERS**
Oreothlypis celata	orange-crowned warbler
Setophaga petechia	yellow warbler
Setophaga townsendi	Townsend's warbler
Cardellina pusilla	Wilson's warbler
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
ICTERIDAE	**BLACKBIRDS**
Icterus bullockii	Bullock's oriole
Molothrus ater	brown-headed cowbird
EMBERIZIDAE	**EMBERIZIDS**
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Pipilo maculatus	spotted towhee
Zonotrichia leucophrys	white-crowned sparrow
CARDINALIDAE	**CARDINALS**
Piranga ludoviciana	western tanager
Pheucticus melanocephalus	black-headed grosbeak
Passerina caerulea	blue grosbeak
Passerina amoena	lazuli bunting
FRINGILLIDAE	**FINCHES**
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
Carpodacus mexicanus	house finch
Carpodacus purpureus	purple finch
LOCUSTELLIDAE	**LOCUSTELLID FINCHES**
Lonchura punctulata	scaly-breasted munia
CLASS MAMMALIA	**MAMMALS**
LEPORIDAE	**HARES & RABBITS**
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS**
Spermophilus beecheyi	California ground squirrel
CANIDAE	**WOLVES & FOXES**
Canis latrans	coyote

ATTACHMENT 6 – SITE PHOTOGRAPHS

Attachment 6 – Site Photographs

	**Photo 1.** Picture depicts the territory in 2014 that a least Bell's vireo male held in 2013. Many of the one- to three-year old willows and the understory that provided habitat for the least Bell's vireo in 2013 had died back in 2014. Photo taken May 9, 2014.
	**Photo 2.** Picture depicts the Black Willow Thicket in the southern area of the Project site, near the dam. In May 2014, there was very little to no understory. Photo taken May 20, 2014.

	**Photo 3.** Picture depicts the Black Willow Thicket in the southwestern area of the Project site, near the dam. In July 2014, the understory primarily consisted of cocklebur (*Xanthium strumarium*). Photo taken July 22, 2014.
	**Photo 4.** Picture depicts a Mule Fat Thicket in the eastern area of the Project site that provided suitable habitat for least Bell's vireo in 2014. Photo taken July 22, 2014.

APPENDIX D

2015 Focused Survey Report for Western Yellow-billed Cuckoo at the Devil's Gate Reservoir

November 17, 2015

Stacey Love
Recovery Permit Coordination
United States Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

SUBJECT: 2015 FOCUSED SURVEY REPORT FOR WESTERN YELLOW-BILLED CUCKOO AT THE DEVIL'S GATE RESERVOIR, LOS ANGELES COUNTY, CALIFORNIA

Dear Ms. Love:

Chambers Group, Inc. (Chambers Group) biologists conducted focused surveys for western yellow-billed cuckoo (*Coccyzus americanus*, WYBC) during the breeding season of 2015 for the Devil's Gate Reservoir Sediment Removal and Management Project located in the City of Pasadena, Los Angeles County, California. The results of the surveys are presented in this letter report.

SURVEY LOCATION

The survey area is located in the Devil's Gate Reservoir in the city of Pasadena in Los Angeles County, California, on Assessor's Parcel Numbers 5823015902, 5823004900, 5823003911, 5823003910, 5823003907, 5823003909, and 5823031900. Devil's Gate Reservoir is found in the La Cañada, San Pascual-Grafias, and San Rafael special survey areas in the California United States Geological Survey (USGS) 7.5-minute *Pasadena* topographic quadrangle. A map of the survey area is provided in Attachment 1.

WESTERN YELLOW-BILLED CUCKOO NATURAL HISTORY

The western yellow-billed cuckoo (nesting) is a federally-listed threatened and a state-listed endangered species. The WYBC is found primarily in the Eastern United States, but this subspecies is an extremely rare and localized summer resident of the southwestern U.S. Historically, it was found commonly throughout the Central Valley and California coastline until the early 20th century. It is a medium-sized bird with a brown back, a yellow, decurved bill, and a long grey-brown tail with distinctive white spots on the outer retrices. This species primarily inhabits mature, open riparian woodlands along the broad, lower flood-bottoms of larger river systems. Habitat features usually include some relatively open patches and intermixed low, dense, scrubby vegetation typical of these watercourses. In the southwestern U.S., the western WYBC also occupies desert riparian woodlands composed of willows (*Salix* spp.), Fremont cottonwoods (*Populus fremontii*), and dense mesquite (*Prosopis* spp.). It typically nests in willows and forages more so among the cottonwoods and other trees. Its diet includes caterpillars, grasshoppers, other large insects, frogs, and some small lizards. Populations of the western WYBC in California were decimated before the mid-20th century by the extensive loss of riparian habitat to agriculture and development as well as by heavy pesticide use, and have not rebounded since that time (Hughes 1999).

SANTA ANA LOS ANGELES REDLANDS PALM DESERT SAN DIEGO EL CENTRO RENO
CORPORATE OFFICE 5 Hutton Centre Drive, Suite 750 | Santa Ana, California 92707
t | 949.261.5414 f | 714.545.2255 w | www.chambersgroupinc.com

In California, breeding populations of greater than five pairs which persist every year are currently limited to the Sacramento River from Red Bluff to Colusa, and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other sites where small populations of cuckoos (<5 pairs) breed or possibly breed (but not necessarily every year) are: The Feather River from Oroville to Verona, Butte, Yuba and Sutter counties; the Prado Flood Control Basin, San Bernardino and Riverside counties; the Amargosa River near Tecopa, Inyo Co.; the Owens Valley near Lone Pine and Big Pine, Inyo Co.; the Santa Clara River near Santa Clarita, Los Angeles Co.; the Mojave River near Victorville, San Bernardino Co.; and the Colorado River from Needles, San Bernardino Co. to Yuma, Imperial Co. (Laymon 1998).

METHODS

Focused surveys were conducted within habitat that was determined to be suitable for WYBC by the surveying biologist in 2015 (Attachment 2).

Breeding season WYBC surveys were conducted by United States Fish and Wildlife Service (USFWS)-permitted biologist John Griffith (TE-758175). Survey methodology followed the WYBC survey protocol (Halterman et al 2015). Each survey was conducted during favorable weather conditions to maximize detection probability.

A permitted biologist was not secured until July, after the first survey pass window was closed. After consultation with LACDPW and the USFWS, it was decided to proceed with the remaining 3 survey passes, on a slightly altered schedule (2 surveys in August, 10 day periods between surveys instead of 12 to 15 days). The USFWS advised that the three surveys would not be formally accepted as determining WYBC absence; however, if the species was observed, the "present" status would be accepted/established. In addition, one survey was conducted on June 24 during the first survey pass; however, the survey was not conducted by a permitted biologist and therefore was not considered a protocol level survey.

All surveys were conducted on foot by looking and listening for the target species in all suitable riparian habitat within the survey area and a 500-foot buffer (Attachment 2).

Observations of the songs, scolds, whisper calls, flight patterns, behaviors, and plumage characteristics were used in conjunction to ascertain presence/absence of WYBC. The biologist conducted the surveys from optimal stationary locations to see and hear the target species without harming any other wildlife species in the area.

Permitted biologists used prerecorded WYBC vocalizations to elicit WYBC within and/or adjacent to all suitable habitat for 5 minutes (a short call with a 50-55 second listening period repeated 5 times) at 100 meter intervals across the length and breadth of the suitable habitat. If a WYBC was detected, the taped vocalization broadcast was ceased at that location, and the location, numbers, status, and demographic data of the target species were recorded.

All observed wildlife species were recorded for each survey day, all sensitive wildlife species incidentally observed were recorded and corresponding GPS points were mapped (Attachments 3 and 4).

RESULTS

Survey Conditions

Survey conditions are presented in Table 1.

Table 1. Survey Conditions

Date	Surveyor	Time		Temperature*		Wind**		Cloud Cover		Precipitation	
		Start	End	Start	End	Start	End	Start	End	Start	End
07/25/15	John Griffith	5:35 A.M.	11:00 A.M.	61	85	0	2	0%	0%	0	0
08/04/15	John Griffith	5:15 A.M.	11:00 A.M.	64	83	0	1	25%	95%	0	0
08/14/15	John Griffith	5:35 A.M.	11:20 A.M.	65	96	0	0	0%	0%	0	0

*All temperature readings are in Fahrenheit
**All wind readings are in miles per hour

No WYBC were detected within the survey area during the 2015 surveys.

Other Sensitive Species

Least Bell's vireo

Two least Bell's vireo (*Vireo belli pusillus*; LBVI) family groups were incidentally observed during the August 14 survey (Attachment 3). The LBVI is both a state and federally listed endangered species. The LBVI observed included one likely family group (one adult singing male with two juveniles, 3 birds total) and one family group or possibly a juvenile group (either an adult with one or more juveniles, or 2-3 juveniles).

Southwestern willow flycatcher

One southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL) family group was incidentally observed during the last survey conducted on August 14 (Attachment 3). The SWFL is listed as both federally and state endangered. The family group included one or more adults and one or more young of the year (3 birds total in the group observed).

Yellow Warbler

Nine male yellow warblers (*Setophaga petechia*) were incidentally observed during all three surveys conducted (Attachments 3). The yellow warbler is a state Species of Special Concern (SSC).

Yellow-breasted Chat

Two male yellow-breasted chats (*Icteria virens*) were incidentally observed. The individuals were observed during the first two surveys conducted on July 25 and August 4 (Attachment 3). The yellow-breasted chat is a state Species of Special Concern (SSC).

CONCLUSIONS

No western yellow-billed cuckoo were found within the survey area during the 2015 focused surveys. Several least Bell's vireo, southwestern willow flycatcher, and yellow warbler individuals were observed incidentally. One yellow-breasted chat was observed incidentally.

Please contact me at (949) 261-5414 ext. 7232 if you have any questions or concerns regarding these results.

Sincerely,

CHAMBERS GROUP, INC.

Heather Franklin
Staff Biologist

ENCLOSURES

Attachment 1 – Survey Location
Attachment 2 – Suitable Habitat
Attachment 3 – Sensitive Species Locations Map
Attachment 4 – Wildlife Species Observed

REFERENCES

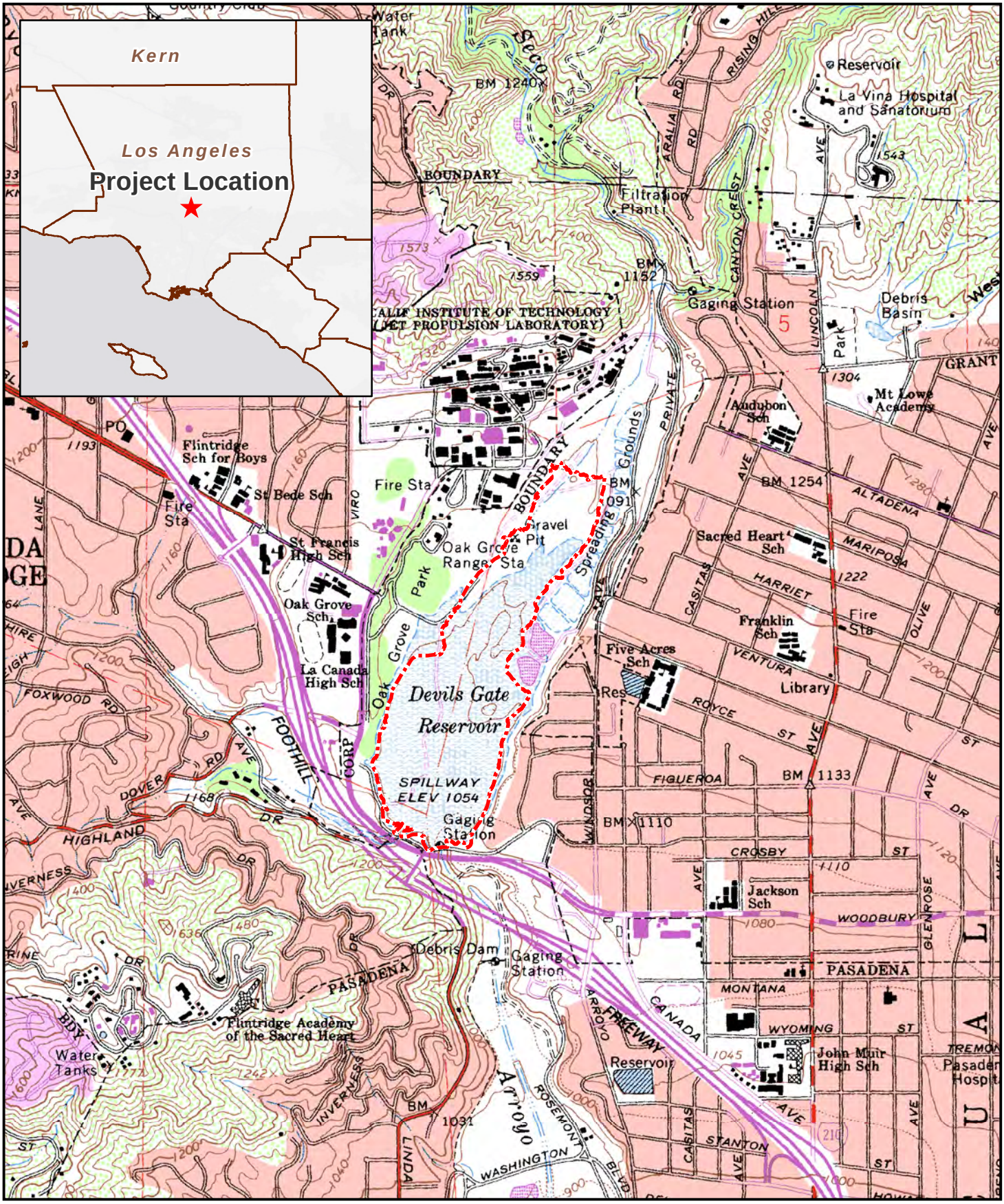
California Department of Fish and Wildlife (CDFW)
2013 California Natural Diversity Database, Rarefind 4. Biogeographic Data Branch, Sacramento, CA.

Halterman, M., M.J. Johnson, J.A. Holmes and S.A. Laymon.
2015 A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods, 45 p.

Hughes, J. M.
1999 Yellow-billed Cuckoo (*Coccyzus americanus*). In The Birds of North America, No. 418 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Laymon, S. A.
1998. Yellow-billed Cuckoo (*Coccycus americanus*). *In* The Riparian Bird Conservation Plan: A strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

ATTACHMENT 1 – SURVEY LOCATION



Legend

Survey Area

N

0 500 1,000 2,000

Feet

Attachment 1

Devil's Gate Reservoir Sediment Removal and Management Project
Survey Location

Name: 20767 Attach 1 Survey Location.Mxd
Print Date: 12/22/2014, Author: phuls

CHAMBERS GROUP

ATTACHMENT 2 – SUITABLE HABITAT

Legend

- Photo Point (with direction)
- Survey Area
- Yellow-Billed Cuckoo Suitable Habitat

N

0 250 500 1,000

Feet

Attachment 2

Devil's Gate Reservoir Sediment Removal and Management Project

YBCU 2015 Suitable Habitat

Name: 20767 Attach 2 YBCU Suit Habitat.Mxd
Print Date: 9/16/2015, Author: msimmons

CHAMBERS GROUP

ATTACHMENT 3 – SENSITIVE SPECIES LOCATIONS MAP

Legend

- Survey Area
- Yellow-Billed Cuckoo Suitable Habitat

Sensitive Species Observations

- Least Bell's Vireo
- Willow Flycatcher
- Yellow Warbler
- Yellow-breasted Chat

N

0 250 500

Feet

Attachment 3

Devil's Gate Reservoir Sediment Removal and Management Project

YBCU 2015 Survey Results

Name: 20767 Attach 3 YBCU Survey Results.Mxd
Print Date: 9/23/2015, Author: msimmons

CHAMBERS GROUP

ATTACHMENT 4 – WILDLIFE SPECIES OBSERVED

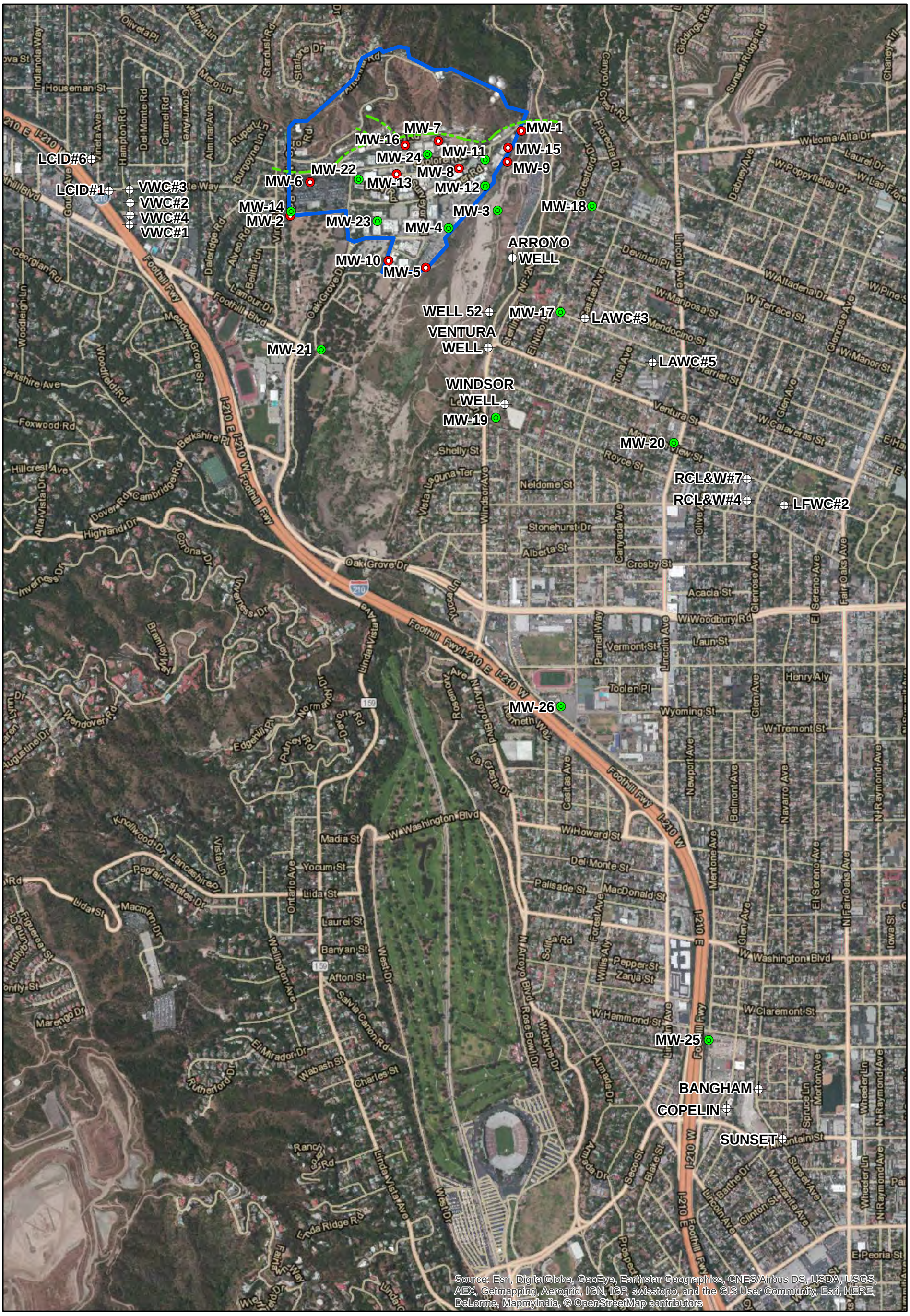
Attachment 4. Wildlife Species Observed

order	family	subfamily	*Genus*	*species*	English name
ANSERIFORMES					
		Anatinae			
			Anas	***platyrhynchos***	Mallard.
GALLIFORMES					
	ODONTOPHORIDAE				
			Callipepla	***californica***	California Quail.
CICONIIFORMES					
	ARDEIDAE				
			Ardea	***herodias***	Great Blue Heron.
			Butorides	***virescens***	Green Heron.
	CATHARTIDAE				
			Cathartes	***aura***	Turkey Vulture.
FALCONIFORMES					
	ACCIPITRIDAE				
		Accipitrinae			
		CSC-3	***Accipiter***	***cooperii***	Cooper's Hawk.
			Buteo	***lineatus***	Red-shouldered Hawk.
			Buteo	***jamaicensis***	Red-tailed Hawk.
	FALCONIDAE				
		Falconinae			
			Falco	***sparverius***	American Kestrel.
CHARADRIIFORMES					
		Charadriinae			
			Charadrius	***vociferus***	Killdeer.
	SCOLOPACIDAE				
		Scolopacinae			
			Tringa	***melanoleuca***	Greater Yellowlegs.
COLUMBIFORMES					
	COLUMBIDAE				
			Columba	***livia***	Rock Pigeon.
			Zenaida	***macroura***	Mourning Dove.
CUCULIFORMES					
	CUCULIDAE				
		Neomorphinae			
			Geococcyx	***californianus***	Greater Roadrunner.
APODIFORMES					
	APODIDAE				
		Apodinae			
			Aeronautes	***saxatalis***	White-throated Swift.
	TROCHILIDAE				
		Trochilinae			
			Archilochus	***alexandri***	Black-chinned Hummingbird.
			Calypte	***anna***	Anna's Hummingbird.
			Selasphorus	***sasin***	Allen's Hummingbird.
PICIFORMES					
	PICIDAE				
		Picinae			
			Picoides	***nuttallii***	Nuttall's Woodpecker.
			Picoides	***pubescens***	Downy Woodpecker.
			Melanerpes	***formicivorus***	Acorn Woodpecker.
PASSERIFORMES					
		Fluvicolinae			
		FE	***Empidonax***	***traillii extimus***	Southwestern Willow Flycatcher.
			Empidonax	***difficilis***	Pacific-slope Flycatcher.
			Sayornis	***nigricans***	Black Phoebe.
			Sayornis	***saya***	Say's Phoebe.
		Tyranninae			
			Myiarchus	***cinerascens***	Ash-throated Flycatcher.
			Tyrannus	***vociferans***	Cassin's Kingbird.

order	family	subfamily	*Genus*	*species*	English name
	VIREONIDAE				
		FE	***Vireo***	***bellii pusillus***	Least Bell's Vireo.
			Vireo	***huttoni***	Hutton's Vireo.
			Vireo	***gilvus***	Warbling Vireo.
	CORVIDAE				
			Aphelocoma	***californica***	Western Scrub-Jay.
			Corvus	***brachyrhynchos***	American Crow.
			Corvus	***corax***	Common Raven.
	ALAUDIDAE				
			Eremophila	***alpestris***	Horned Lark.
	HIRUNDINIDAE				
		Hirundininae			
			Tachycineta	***bicolor***	Tree Swallow.
			Stelgidopteryx	***serripennis***	Northern Rough-winged Sw.
			Petrochelidon	***pyrrhonota***	Cliff Swallow.
			Hirundo	***rustica***	Barn Swallow.
	AEGITHALIDAE				
			Psaltriparus	***minimus***	Bushtit.
	TROGLODYTIDAE				
			Thryomanes	***bewickii***	Bewick's Wren.
			Troglodytes	***aedon***	House Wren.
	TURDIDAE				
			Sialia	***mexicana***	Western Bluebird.
			Catharus	***ustulatus***	Swainson's Thrush.
			Turdus	***migratorius***	American Robin.
	TIMALIIDAE				
			Chamaea	***fasciata***	Wrentit.
	MIMIDAE				
			Mimus	***polyglottos***	Northern Mockingbird.
			Toxostoma	***redivivum***	California Thrasher.
	PTILOGONATIDAE				
			Phainopepla	***nitens***	Phainopepla.
	PARULIDAE				
			Vermivora	***celata***	Orange-crowned Warbler.
			Dendroica	***petechia***	Yellow Warbler.
			Geothlypis	***trichas***	Common Yellowthroat.
			Wilsonia	***pusilla***	Wilson's Warbler.
			Icteria	***virens***	Yellow-breasted Chat.
	EMBERIZIDAE				
			Pipilo	***maculatus***	Spotted Towhee.
			Pipilo	***crissalis***	California Towhee.
			Melospiza	***melodia***	Song Sparrow.
	CARDINALIDAE				
			Pheucticus	***melanocephalus***	Black-headed Grosbeak.
	ICTERIDAE				
			Molothrus	***ater***	Brown-headed Cowbird.
			Icterus	***cucullatus***	Hooded Oriole.
			Icterus	***bullockii***	Bullock's Oriole.
	FRINGILLIDAE				
		Carduelinae			
			Carpodacus	***purpureus***	Purple Finch.
			Carpodacus	***mexicanus***	House Finch.
			Carduelis	***psaltria***	Lesser Goldfinch.
			Carduelis	***tristis***	American Goldfinch.
				Total	64

APPENDIX E

Hydrological Impacts Attachments



N
W E
S

0 490 980 1,470
Feet

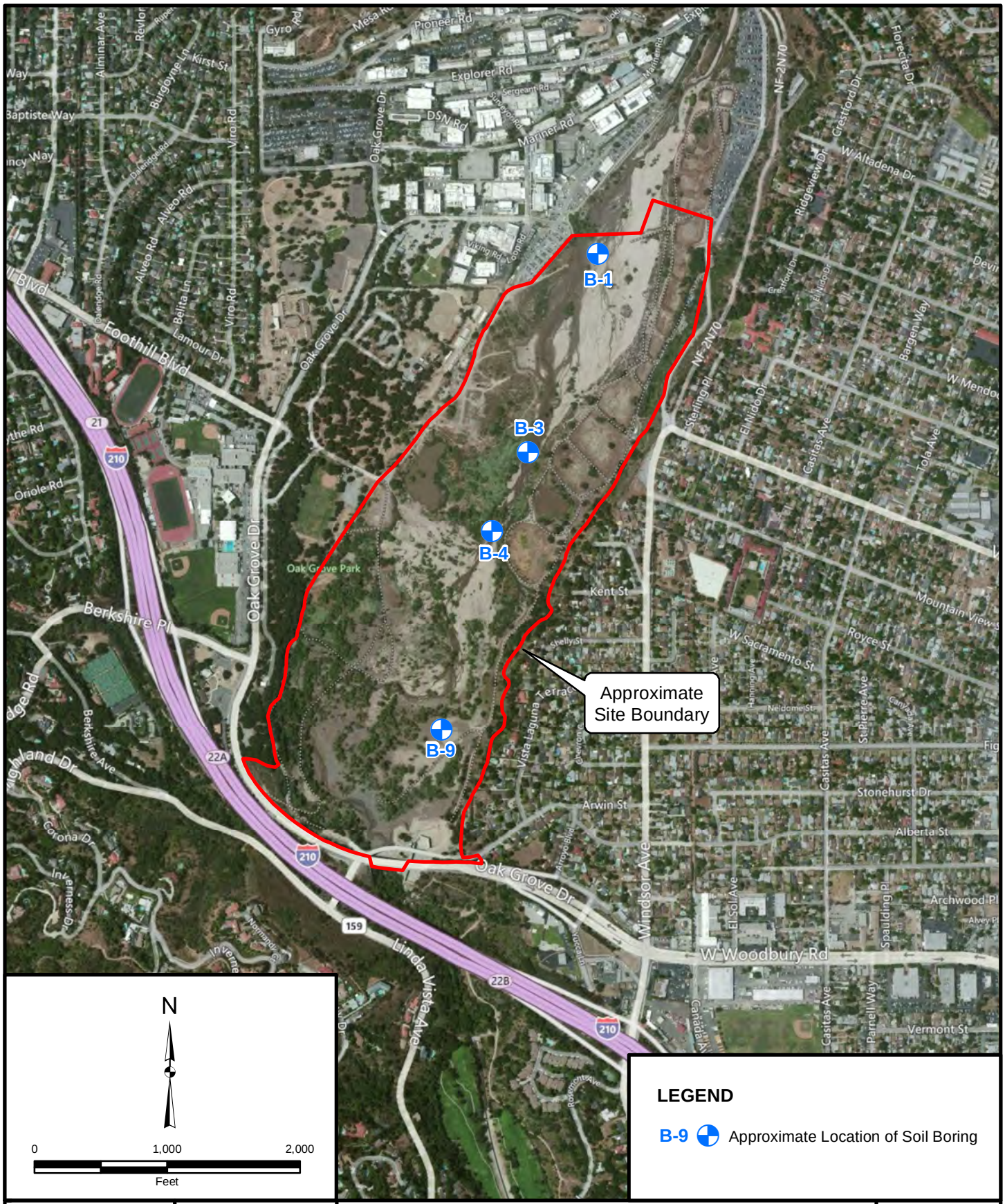
Legend

- JPL Facility Boundary
- Approximate Location of Thrust Fault
- Deep Multi-Port Monitoring Well Location
- Shallow Monitoring Well Location
- Municipal Production Well

TIDEWATER INC
ENGINEERS / SCIENTISTS / PROGRAM MANAGERS

Locations of JPL Groundwater Monitoring Wells and Nearby Municipal Production Wells

DESIGNED BY: JHG DRAWN BY: JHG CHECKED BY: DC	JPL - Pasadena, CA Contract No: W912PL-13-D-0018 TO 001	Figure 1 June 2015



Project: 603211-001	Eng/Geol: VPI/RML
Scale: 1 " = 1,000 '	Date: October 2011

Base Map: ESRI Resource Center, 2010
Thematic Info: Leighton
Author: (cgiovando)

BORING LOCATION MAP

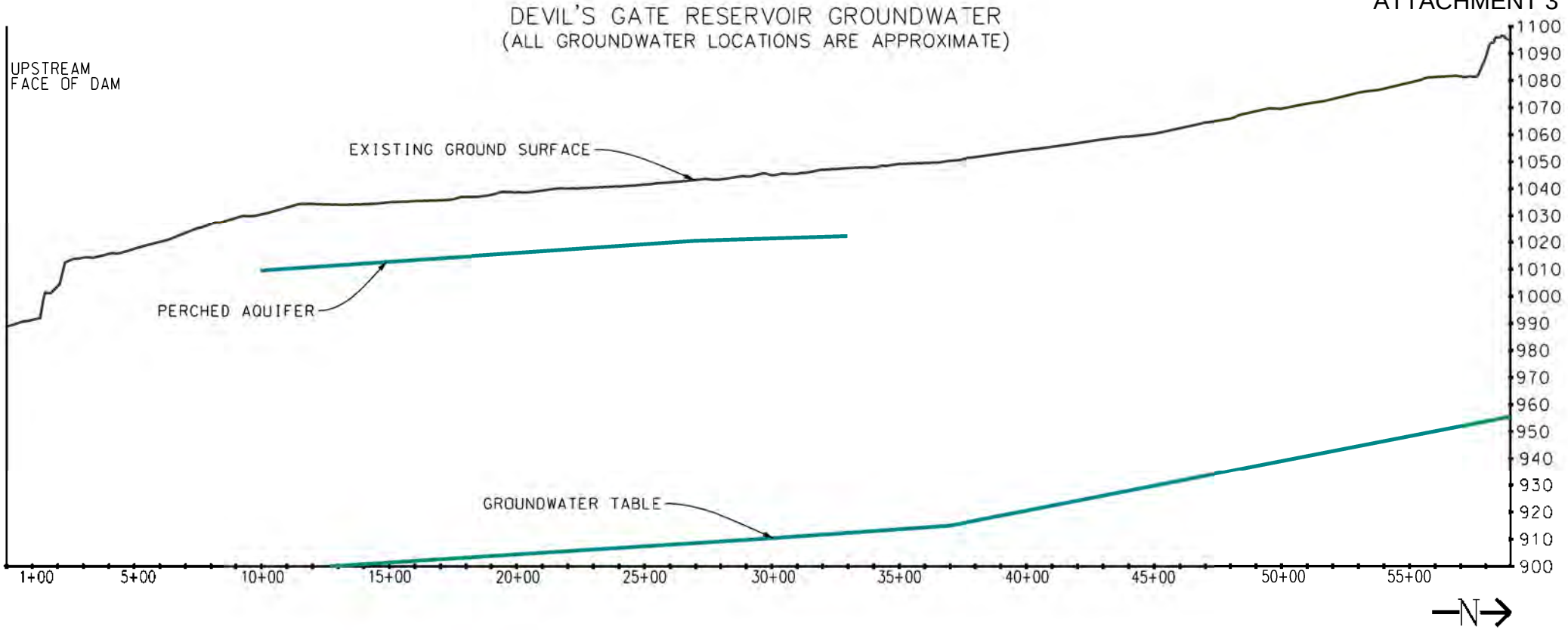
Devil's Gate Reservoir
Pasadena, California

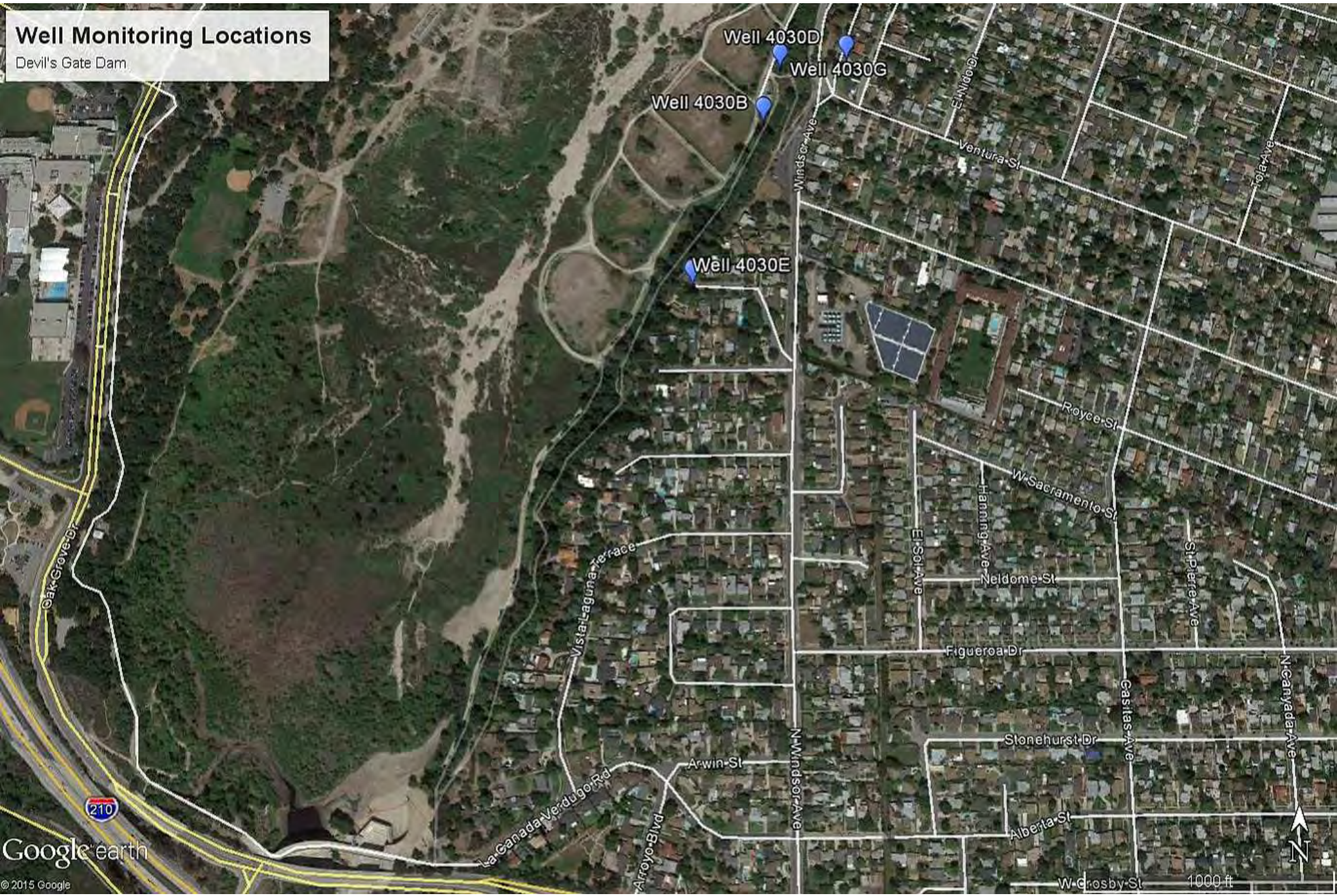
Figure 2

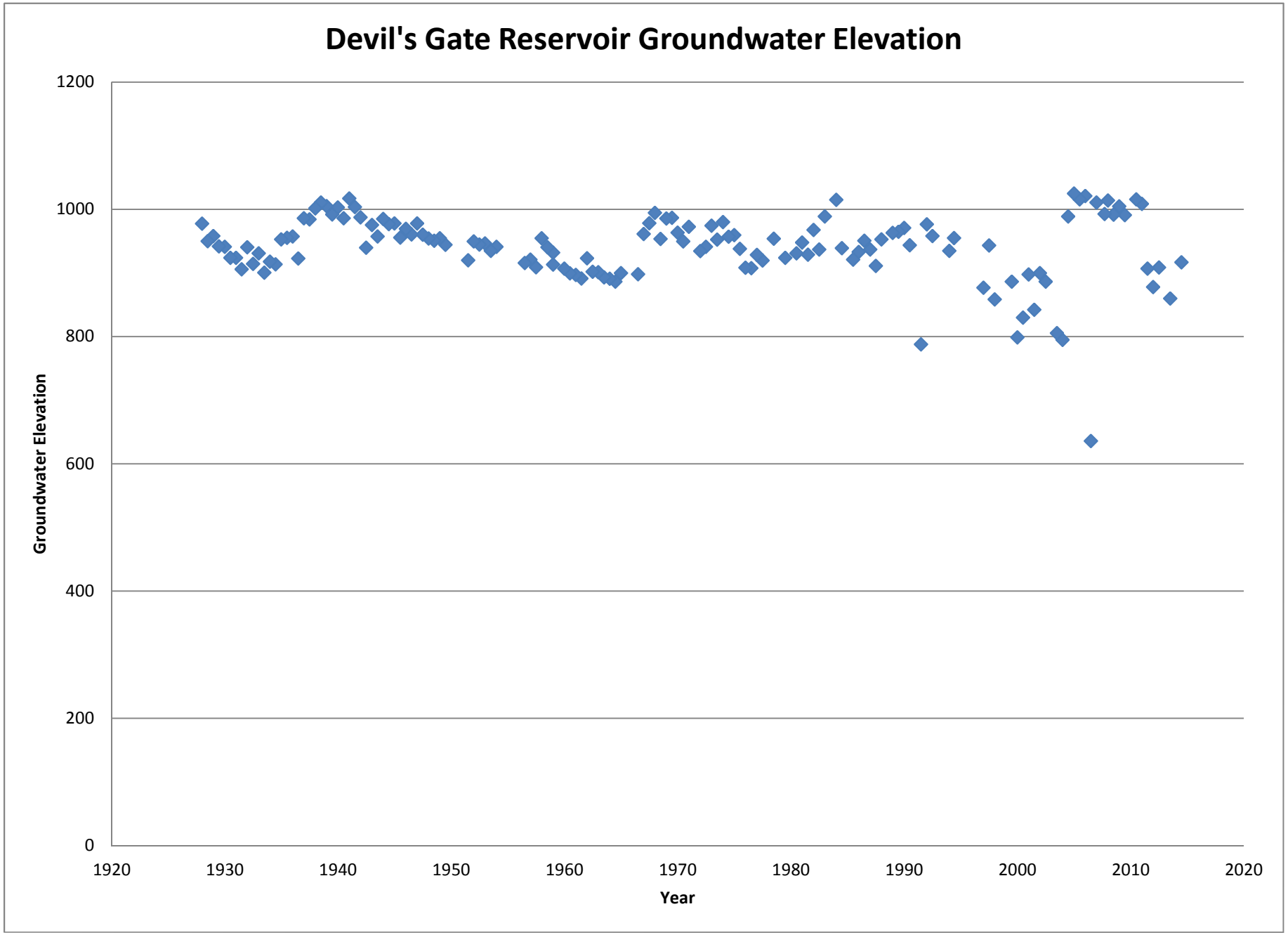
Leighton

Map Saved as V:\drafting\603211\001\Maps\P603211-001_F02_BoringLocationMap_GIS_2013-01-23.mxd on 1/23/2013 3:36:43 PM

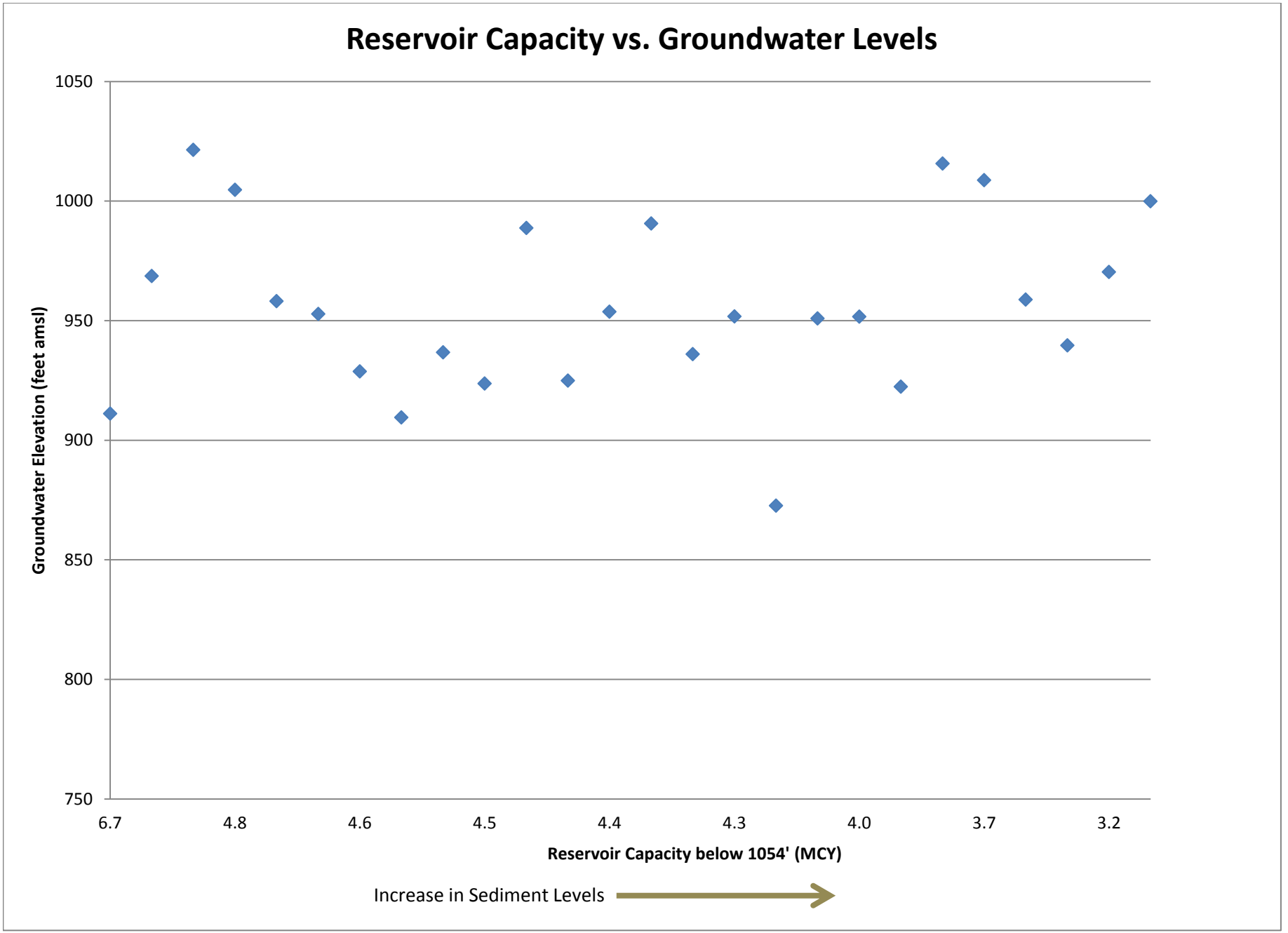
ATTACHMENT 3




Well Monitoring Locations
Devil's Gate Dam
Well 4030D
Well 4030G
Well 4030B
Well 4030E
Windsor Ave
Ventura St
Tola Ave
Royce St
W Sacramento St
Hanning Ave
El Sol Ave
St Pierre Ave
Neldome St
Figueroa Dr
Casitas Ave
N Canyada Ave
Stonehurst Dr
Alberta St
W Crosby St
Oak Grove Dr
Vista Laguna Terrace
Arwin St
La Canada Verdugo Rd
Arroyo Blvd
N Windsor Ave
210
Google earth
© 2015 Google
1000 ft
N


Devil's Gate Reservoir Groundwater Elevation
Groundwater Elevation
1200
1000
800
600
400
200
0
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
Year

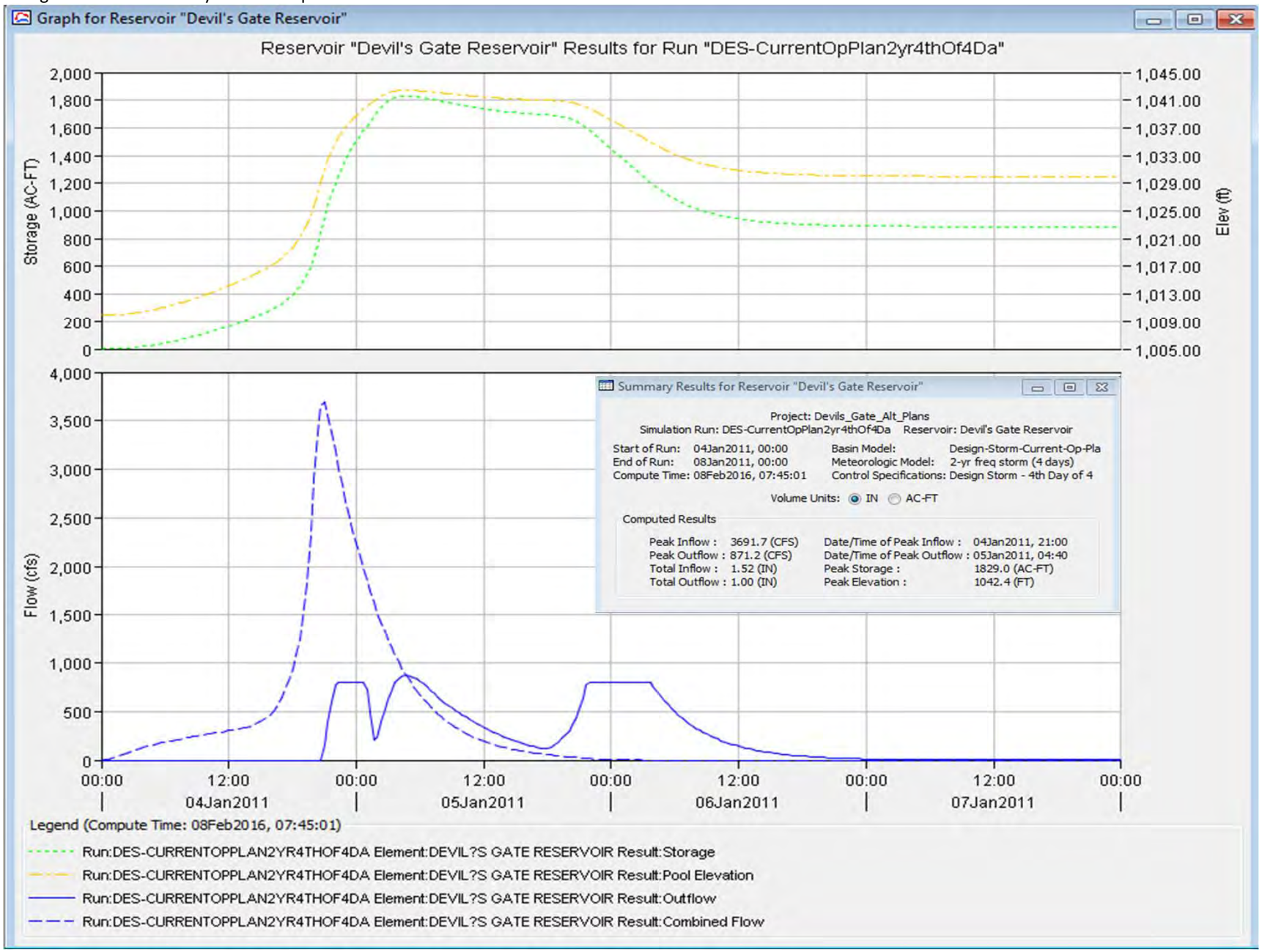
ATTACHMENT 6



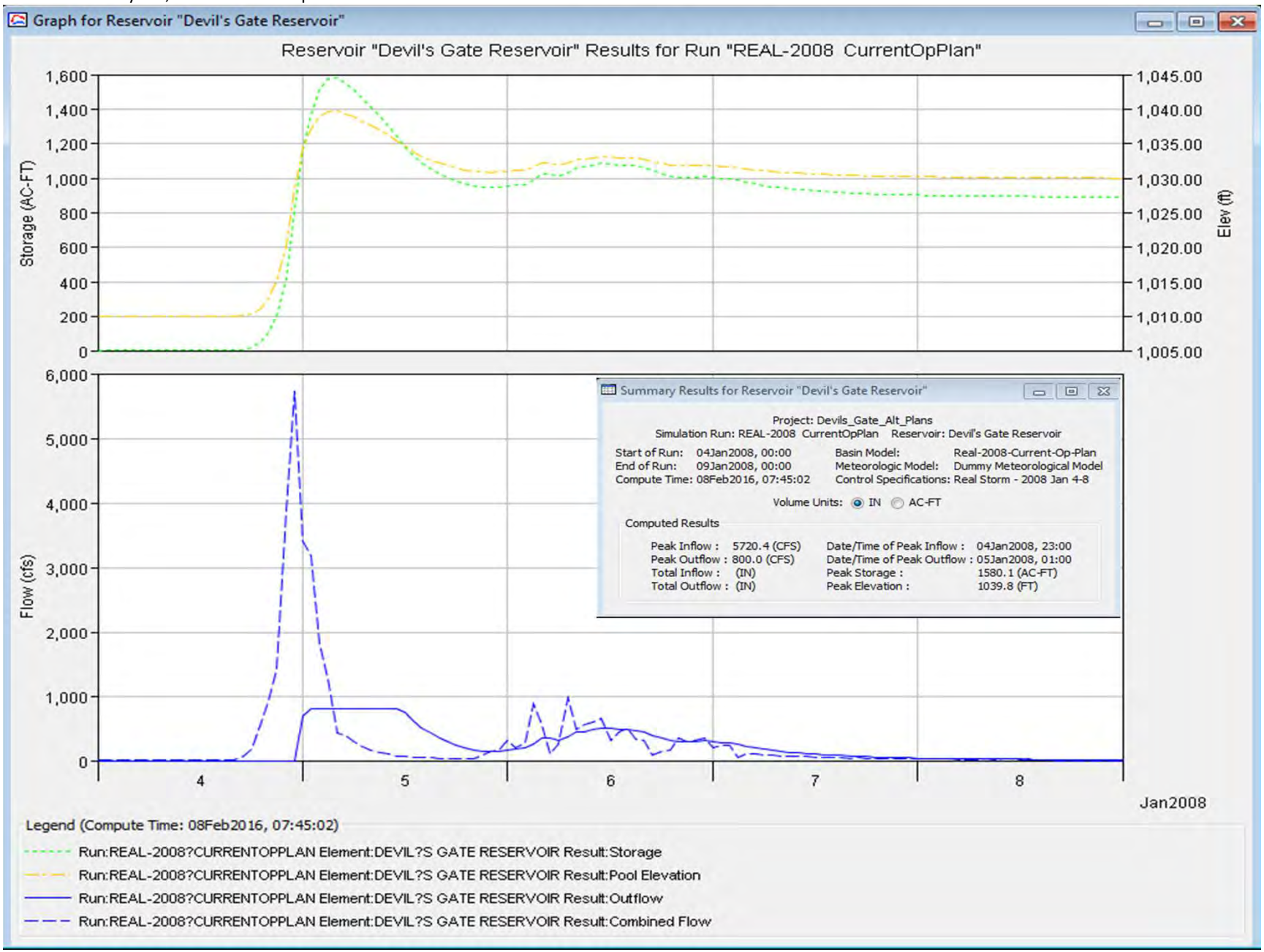
DEVIL'S GATE DAM RESERVOIR
DEVIL'S GATE RESERVOIR SEDIMENT REMOVAL PROJECT

Contour	Accum. Volume (acre-ft)	
	2009	Post-Project
985	0	4.74
990	0	50.07
995	0.15	138.88
1000	4.72	268.19
1005	26.36	429.08
1010	68.60	611.70
1015	139.10	808.26
1020	244.67	1015.97
1025	396.19	1237.81
1030	613.21	1499.64
1035	932.35	1816.75
1040	1349.59	2210.66
1040.5	1396.02	2255.74

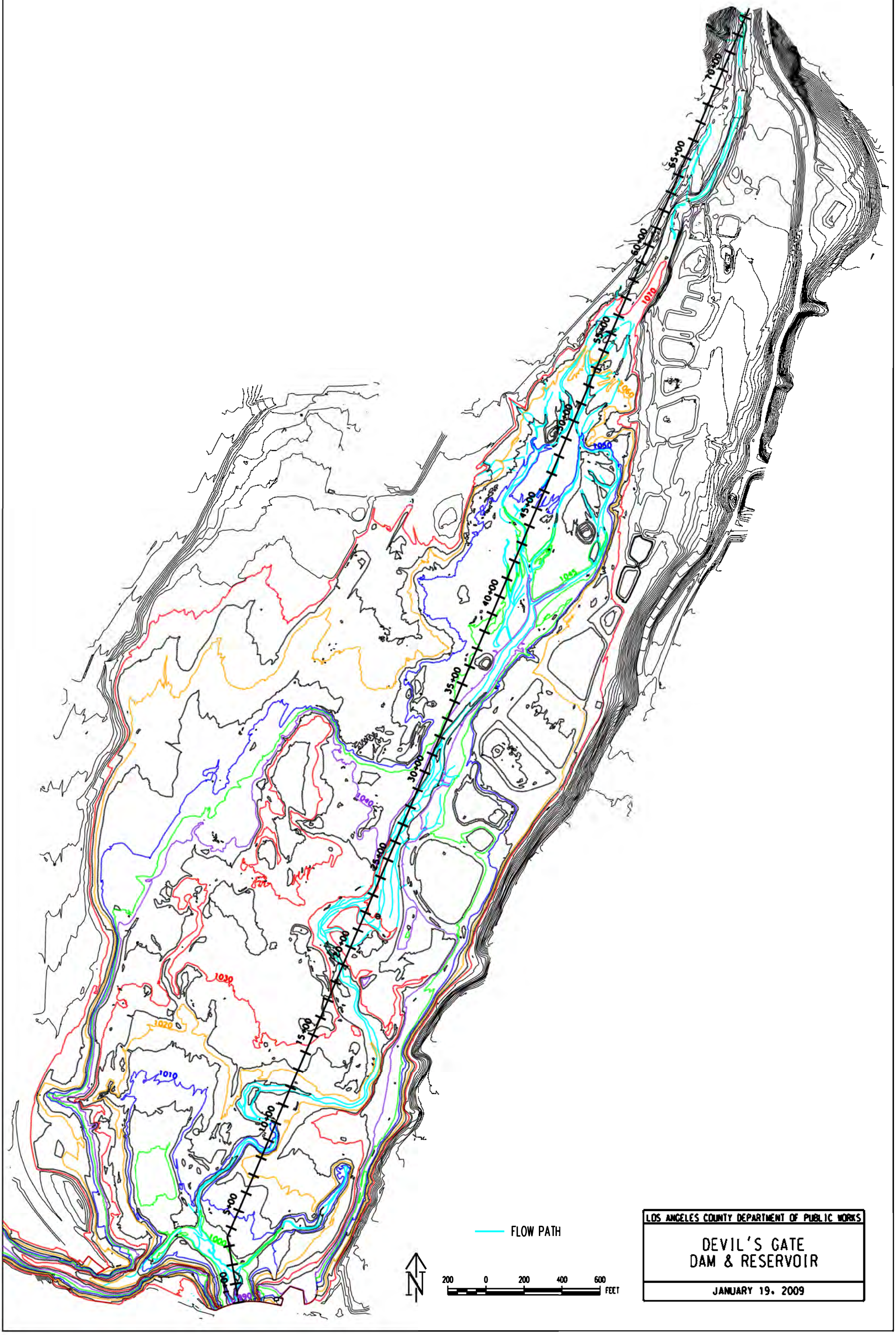
Design Storm - 2Yr 4th Day <Current Op Plan>



Storm of January 4-8, 2008 <Current Op Plan>



ATTACHMENT 10

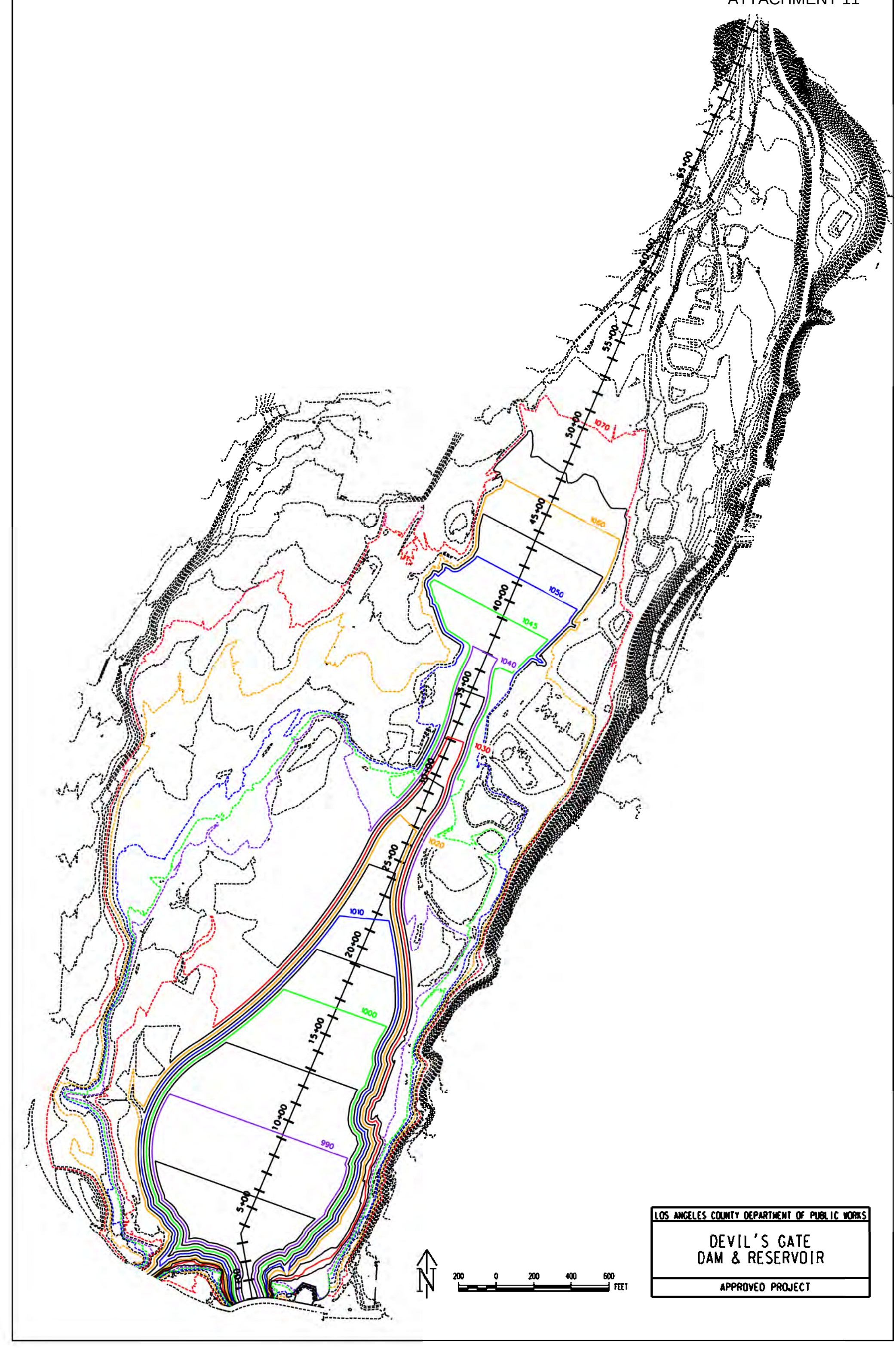


LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DEVIL'S GATE DAM & RESERVOIR

JANUARY 19, 2009

ATTACHMENT 11



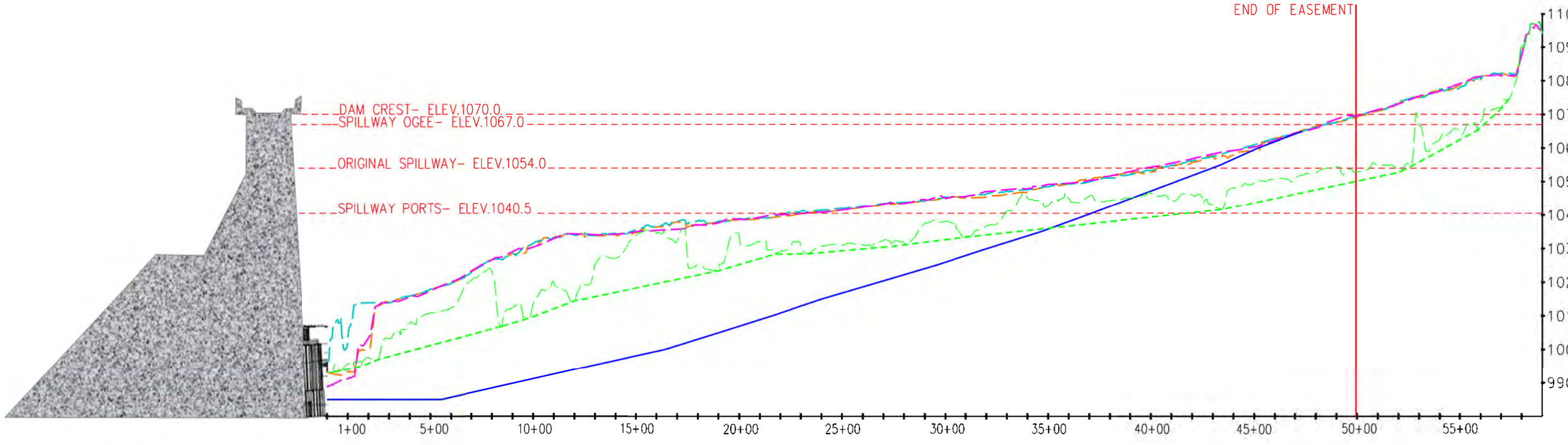
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DEVIL'S GATE DAM & RESERVOIR

APPROVED PROJECT

ATTACHMENT 12

DEVIL'S GATE RESERVOIR PROFILE



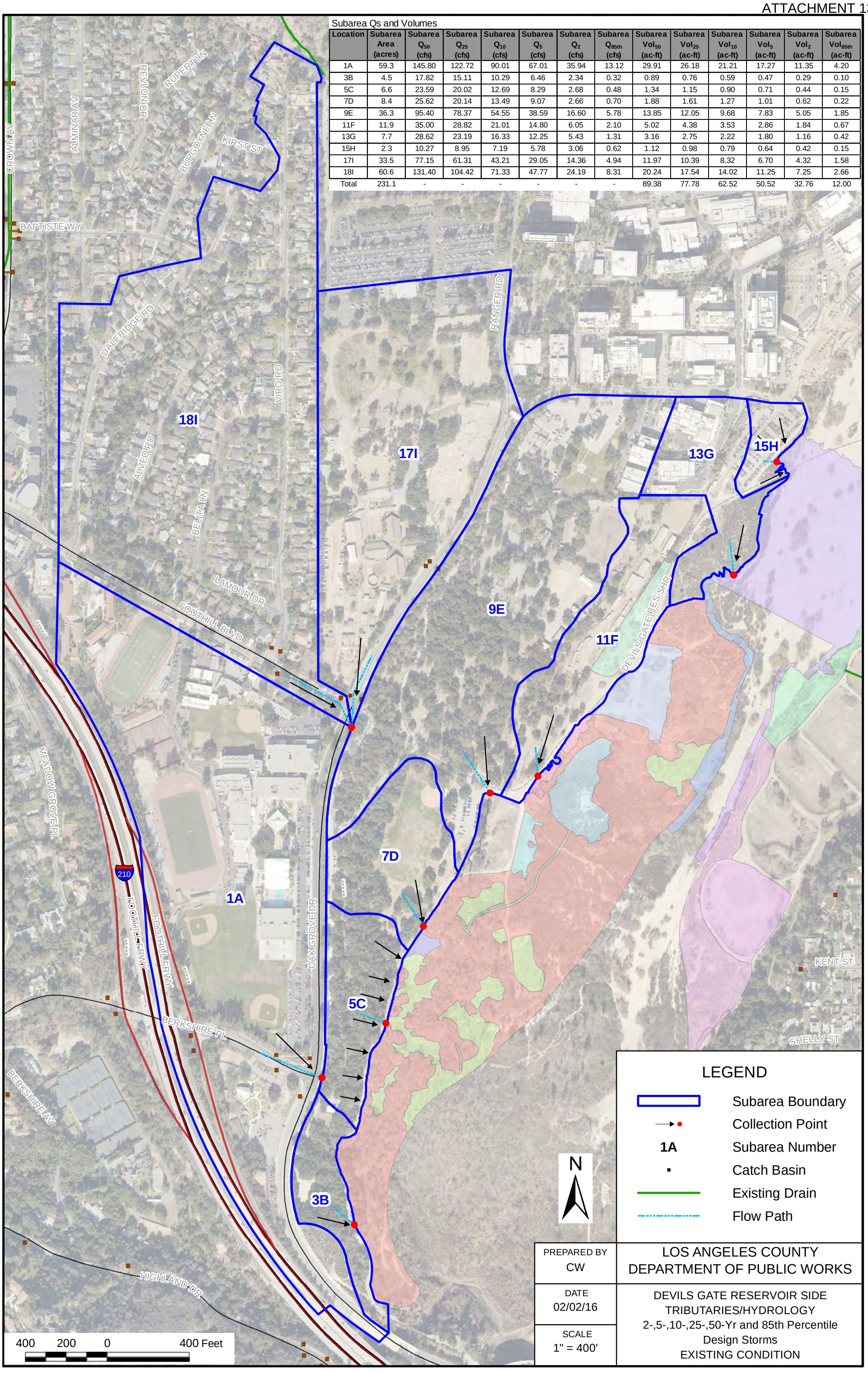
LEGEND

- JANUARY 2009
- JAN. 2009 APPROX. FLOW PATH
- MARCH 2011
- MARCH 2012
- MAY 2014
- APPROVED PROJECT

N

Subarea Qs and Volumes

Location	Subarea Area (acres)	Subarea Q_{50} (cfs)	Subarea Q_{25} (cfs)	Subarea Q_{10} (cfs)	Subarea Q_{5} (cfs)	Subarea Q_{2} (cfs)	Subarea Q_{85th} (cfs)	Subarea Vol_{50} (ac-ft)	Subarea Vol_{25} (ac-ft)	Subarea Vol_{10} (ac-ft)	Subarea Vol_{5} (ac-ft)	Subarea Vol_{2} (ac-ft)	Subarea Vol_{85th} (ac-ft)
1A	59.3	145.80	122.72	90.01	67.01	35.94	13.12	29.91	26.18	21.21	17.27	11.35	4.20
3B	4.5	17.82	15.11	10.29	6.46	2.34	0.32	0.89	0.76	0.59	0.47	0.29	0.10
5C	6.6	23.59	20.02	12.69	8.29	2.68	0.48	1.34	1.15	0.90	0.71	0.44	0.15
7D	8.4	25.62	20.14	13.49	9.07	2.66	0.70	1.88	1.61	1.27	1.01	0.62	0.22
9E	36.3	95.40	78.37	54.55	38.59	16.60	5.78	13.85	12.05	9.68	7.83	5.05	1.85
11F	11.9	35.00	28.82	21.01	14.80	6.05	2.10	5.02	4.38	3.53	2.86	1.84	0.67
13G	7.7	28.62	23.19	16.33	12.25	5.43	1.31	3.16	2.75	2.22	1.80	1.16	0.42
15H	2.3	10.27	8.95	7.19	5.78	3.06	0.62	1.12	0.98	0.79	0.64	0.42	0.15
17I	33.5	77.15	61.31	43.21	29.05	14.36	4.94	11.97	10.39	8.32	6.70	4.32	1.58
18I	60.6	131.40	104.42	71.33	47.77	24.19	8.31	20.24	17.54	14.02	11.25	7.25	2.66
Total	231.1	-	-	-	-	-	-	89.38	77.78	62.52	50.52	32.76	12.00



LEGEND

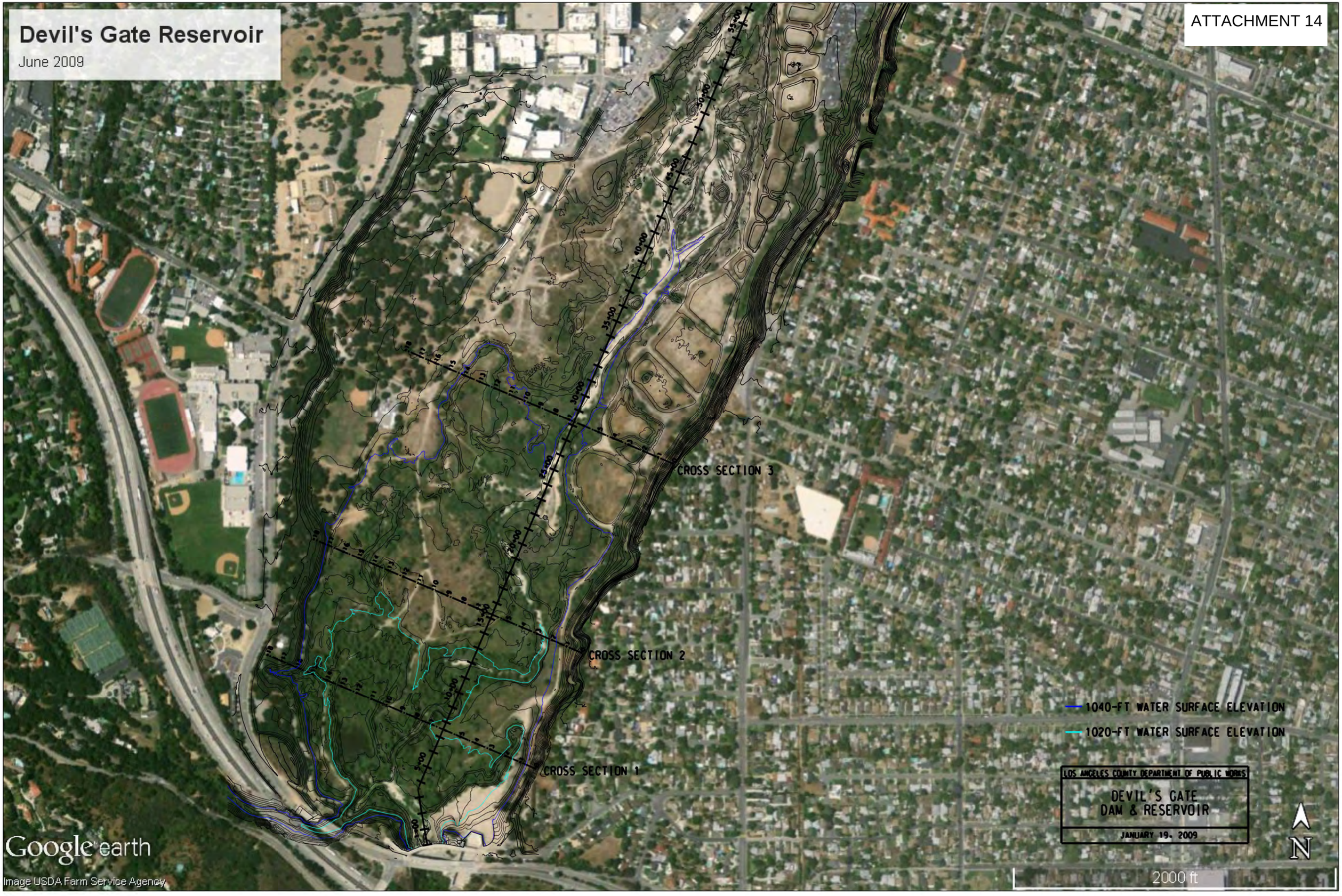
- Subarea Boundary
- Collection Point
- 1A — Subarea Number
- Catch Basin
- Existing Drain
- Flow Path

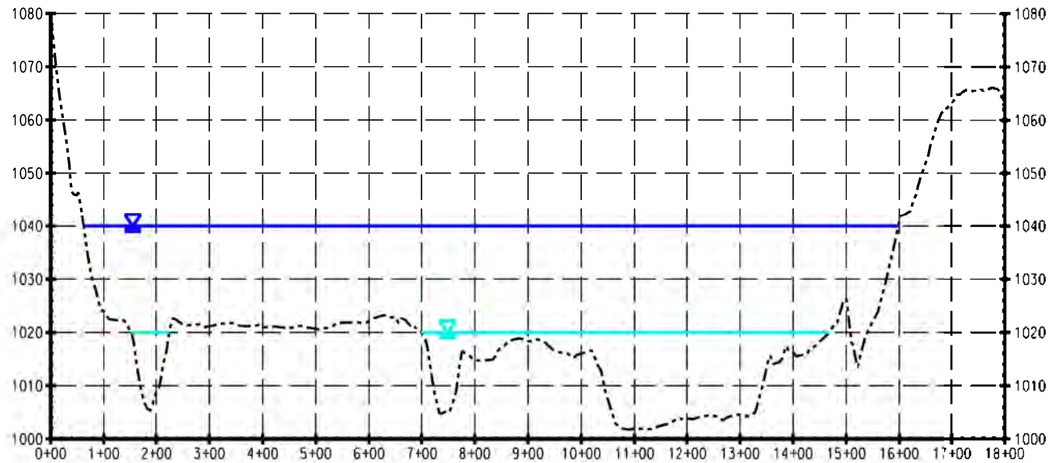
PREPARED BY CW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE 02/02/16	DEVILS GATE RESERVOIR SIDE TRIBUTARIES/HYDROLOGY 2-,5-,10-,25-,50-Yr and 85th Percentile Design Storms EXISTING CONDITION
SCALE 1" = 400'	

ATTACHMENT 14

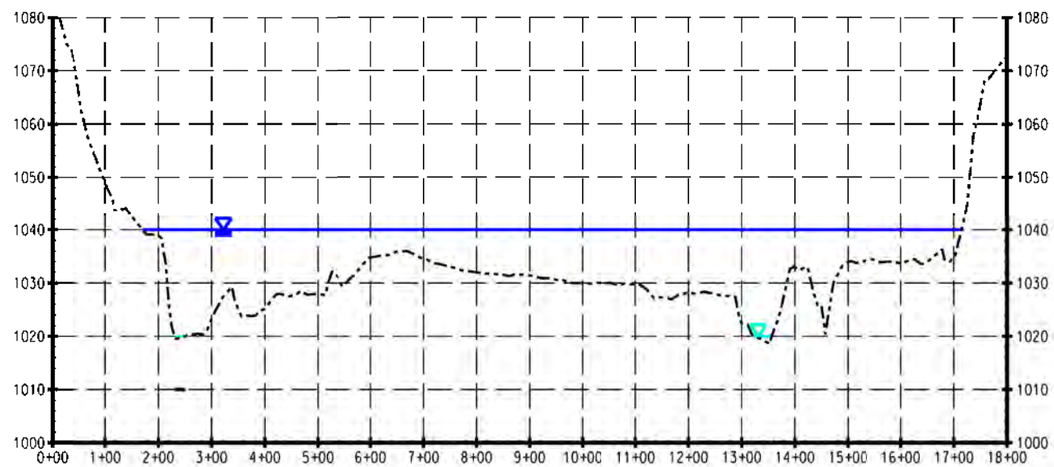
Devil's Gate Reservoir

June 2009

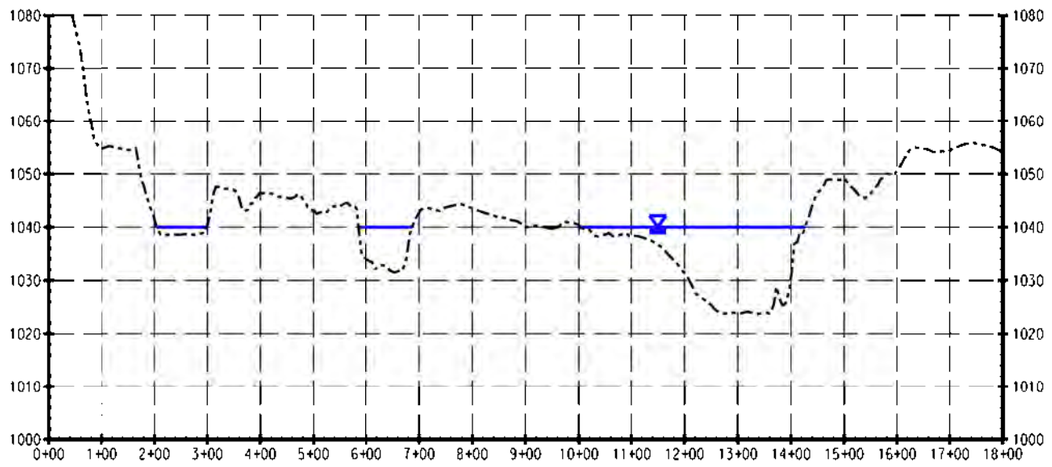




CROSS SECTION 1



CROSS SECTION 2



CROSS SECTION 3

1040-FT WATER SURFACE ELEVATION

1020-FT WATER SUFACE ELEVATION

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DEVIL'S GATE
DAM & RESERVOIR

JANUARY 19, 2009

Devil's Gate Mitigation Areas

Map Features

Initial Project Footprint [1]

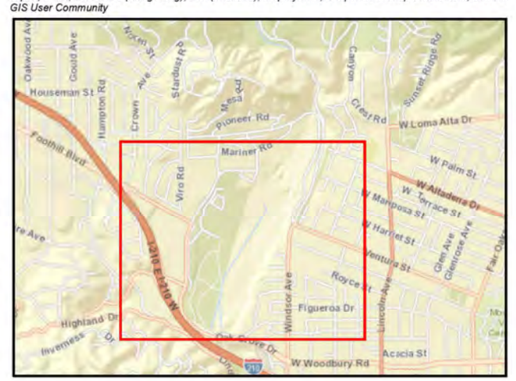
Annual Maintenance Footprint [1]

Waters of the U.S.[2]

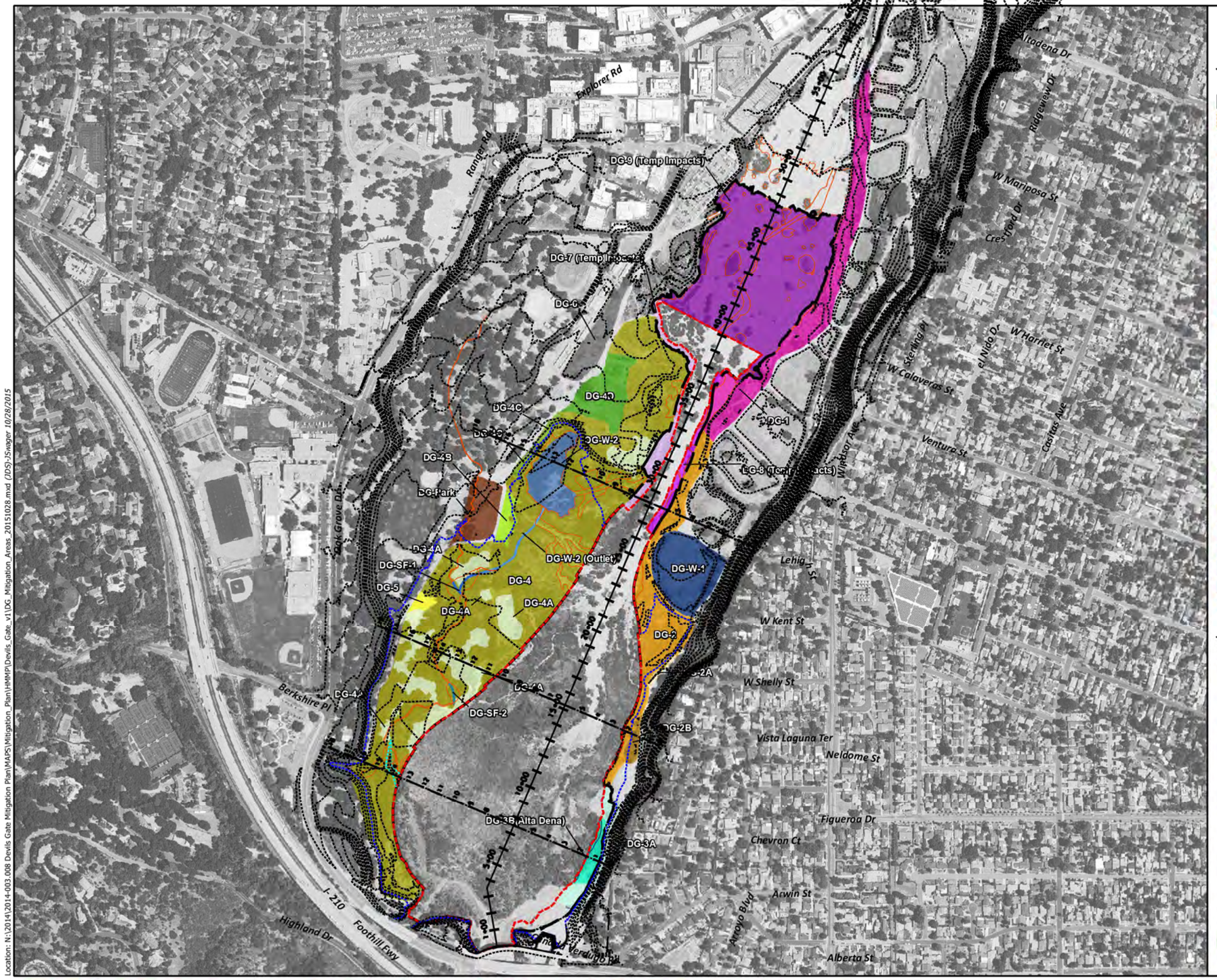
- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

Mitigation Areas

- DG-1 (5.90 acres)
- DG-2 (5.15 acres)
- DG-2A (0.10 acres)
- DG-2B (0.38 acres)
- DG-3A (1.13 acres)
- DG-3B (Alta Dena) (0.62 acres)
- DG-4 (30.59 acres)
- DG-4A (5.59 acres)
- DG-4B (0.54 acres)
- DG-4C (0.45 acres)
- DG-4D (2.32 acres)
- DG-5 (0.26 acres)
- DG-6 (1.46 acres)
- DG-7 (Temp Impacts) (1.41 acres)
- DG-8 (Temp Impacts) (0.87 acres)
- DG-9 (Temp Impacts) (14.12 acres)
- DG-Park (1.64 acres)
- DG-SF-1 (0.06 acres)
- DG-SF-2 (0.03 acres)
- DG-W-1 (3.44 acres)
- DG-W-2 (2.13 acres)
- DG-W-2 (Outlet) (0.13 acres)



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Scale in Feet: 0 600

1040-FT WATER SURFACE ELEVATION

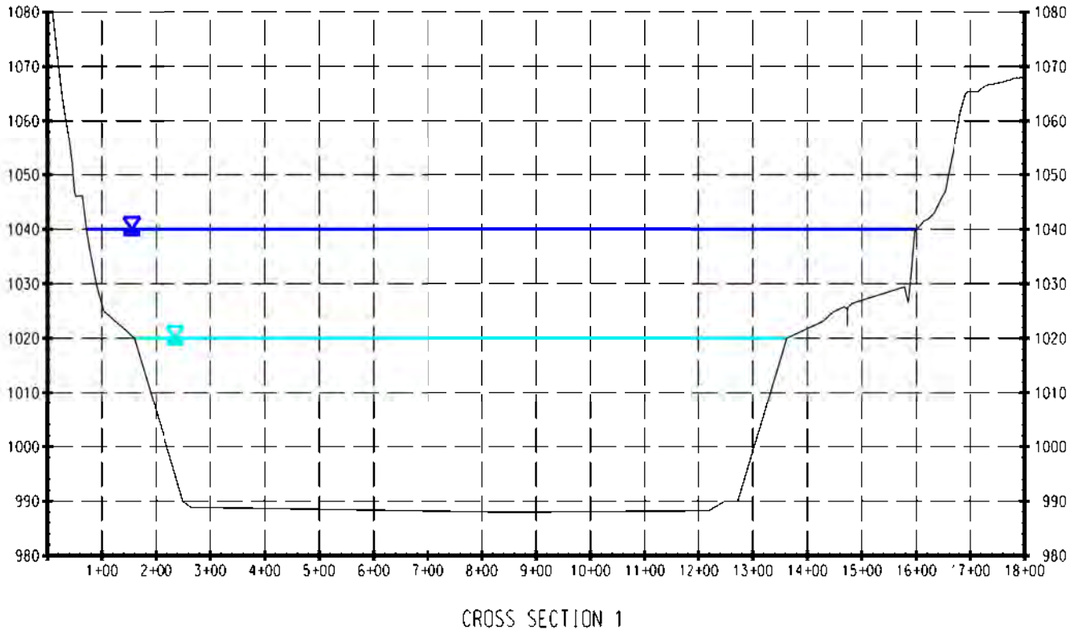
1020-FT WATER SURFACE ELEVATION

Photo Source: NAIP 2014
[1] LADPW
[2] ECORP and Chambers

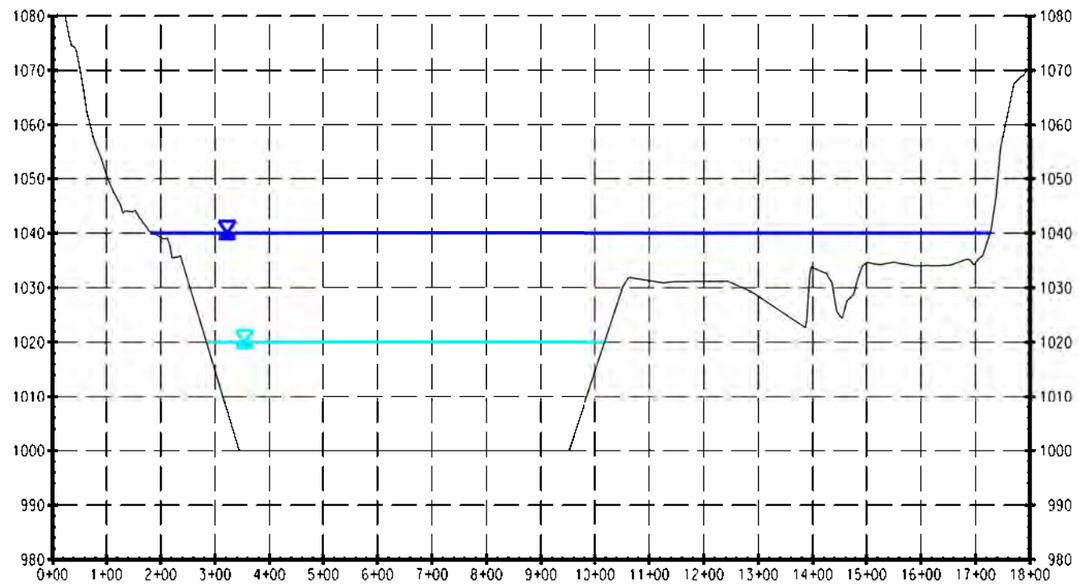
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DEVIL'S GATE DAM & RESERVOIR
APPROVED PROJECT

Map Date: 10/28/2015

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\Mitigation_Plan\HMMP\Devils_Gate_v1\DG_Mitigation_Areas_20151028.mxd (JDS)-JSwager 10/28/2015



CROSS SECTION 1



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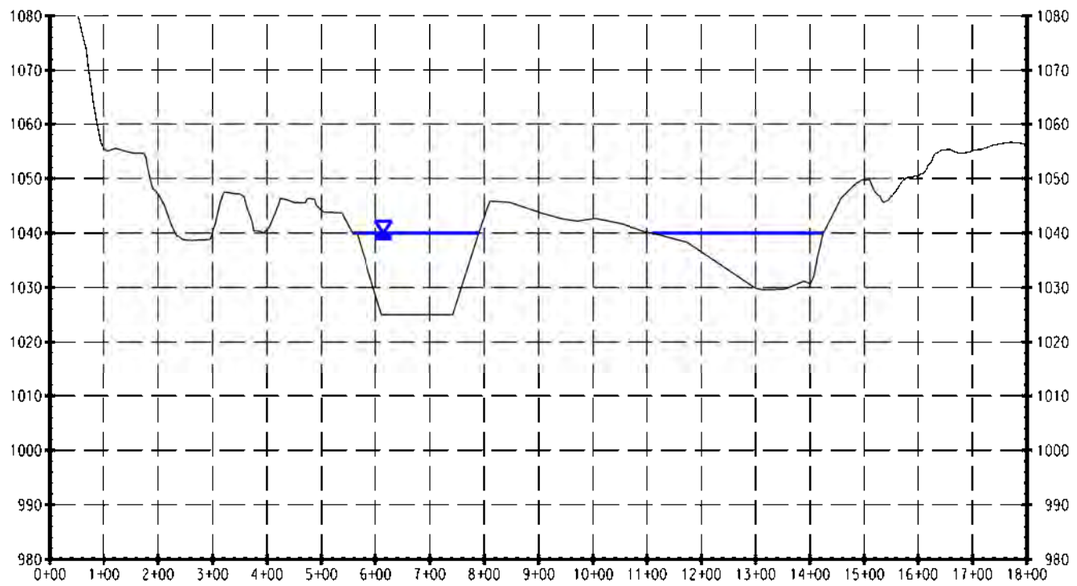

CROSS SECTION 3

1040-FT WATER SURFACE ELEVATION

1020-FT WATER SUFACE ELEVATION

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DEVIL'S GATE
DAM & RESERVOIR

APPROVED PROJECT

APPENDIX F

Compensatory Mitigation Plan

To Be Provided

APPENDIX G

Notice of Determination and Proof of Payment of Filing Fees

Notice of Determination

Appendix D

To:

☐ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☒ County Clerk
County of: Los Angeles
Address: 12400 Imperial Highway
Norwalk, CA 90650

From: Los Angeles County Flood Control District
Public Agency: P.O. Box 1460
Address: Alhambra, CA 91802-1460
Contact: Ken Zimmer
Phone: (626) 458-6188

Lead Agency (if different from above):
Address:
Contact:
Phone:

ORIGINAL FILED
NOV 13 2014
LOS ANGELES, COUNTY CLERK

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2011091084

Project Title: Devil's Gate Reservoir Sediment Removal and Management Project

Project Applicant: Los Angeles County Flood Control District

Project Location (include county): 1065 La Canada Verdugo Road, Pasadena, County of Los Angeles, CA

Project Description:
The Proposed Project will remove sediment from Devil's Gate Reservoir to protect the dam and its valves to reduce the risk of flooding in the communities located downstream along the Arroyo Seco. This effort will include removal of approximately 2,400,000 cubic yards of existing excess sediment in the reservoir in addition to any additional sediment that accumulates during construction. Sediment removal activities are expected to occur between summer 2015 and summer 2020. Reservoir management is expected to start after 2020.

This is to advise that the County of Los Angeles Board of Supervisors (☒ Lead Agency or ☐ Responsible Agency) has approved the above described project on November 12, 2014 (date) and has made the following determinations regarding the above described project.

1. The project [☒ will ☐ will not] have a significant effect on the environment.
2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☒ was ☐ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
Los Angeles County Department of Public Works, 2nd Floor, 900 S. Fremont Avenue, Alhambra, CA 91802

Signature (Public Agency): Christopher Stone Title: Assistant Deputy Director

Date: November 12, 2014 Date Received for filing at OPR: _____

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

State of California—Natural Resources Agency
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

2014 ENVIRONMENTAL FILING FEE CASH RECEIPT

RECEIPT # 201411130560004

STATE CLEARING HOUSE # *(If applicable)*

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY			DATE
LA COUNTY FLOOD CONTROL DISTRICT			11/13/2014
COUNTY/STATE AGENCY OF FILING			DOCUMENT NUMBER
LA			2014323453
PROJECT TITLE			
DEVIL'S GATE RESERVIOIR SEDIMENT REMOVAL & MANAGEMENT PROJECT			
PROJECT APPLICANT NAME			PHONE NUMBER
KEN ZIMMER			(626)458-6188
PROJECT APPLICANT ADDRESS	CITY	STATE	ZIP CODE
P O BOX 1460	ALHAMBRA	CA	91801

PROJECT APPLICANT *(Check appropriate box):*

☑ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

☑	Environmental Impact Report (EIR)	$3,029.75	$ 3,029.75
☐	Negative Declaration (ND)(MND)	$2,181.25	$ 0.00
☐	Application Fee Water Diversion (State Water Resources Control Board Only)	$850.00	$ 0.00
☐	Projects Subject to Certified Regulatory Programs (CRP)	$1,030.25	$ 0.00
☑	County Administrative Fee	~~$50.00~~	$ 75.00
☐	Project that is exempt from fees		
	☐ Notice of Exemption		
	☐ CDFW No Effect Determination (Form Attached)		
☐	Other _____		$ 0.00

PAYMENT METHOD:

☐ Cash ☐ Credit ☐ Check ☑ Other Billing $ 3,104.75

SIGNATURE	TITLE
X	ITC

ORIGINAL - PROJECT APPLICANT COPY - CDFW/ASB COPY - LEAD AGENCY COPY - COUNTY CLERK FG 753.5a (Rev. 11/12)

Los Angeles County Registrar / Recorder
12400 Imperial Highway, Norwalk, CA
(800)201-8999

Business Filings

NORWALK

Cashier: C. CHEN

20141113056000 4

Thursday, November 13, 2014 10:01 AM

5021A
COUNTY OF LA - PUBLIC WORKS (FLOO...

Item(s)

Fee	Qty	Total
NoD - County Posting Fee 2014323453	1	$75.00
NoD - Environmental Impac 2014323453	1	$3,029.75

Total **$3,104.75**

Total Documents: 1

Customer payment(s):

Billing $3,104.75