



SANTA ANITA STORMWATER FLOOD MANAGEMENT AND SEISMIC STRENGTHENING PROJECT

WELCOME

Welcome to the Public Information Meeting for the Santa Anita Stormwater Flood Management and Seismic Strengthening Project. This meeting is designed to provide you with a convenient opportunity to learn more about this project from staff that is directly involved. You are invited to listen in on the presentation, participate in the question and answer session, visit the topical stations, interact one-on-one with the specialists and provide your written comments.

MEETING AGENDA

6:15 - 6:45 PRESENTATION

6:45 - 7:15 QUESTION & ANSWER PERIOD

7:15 - 8:00 VISIT TOPICAL STATIONS

TOPICAL STATIONS

1. BIOLOGICAL

2. AIR QUALITY

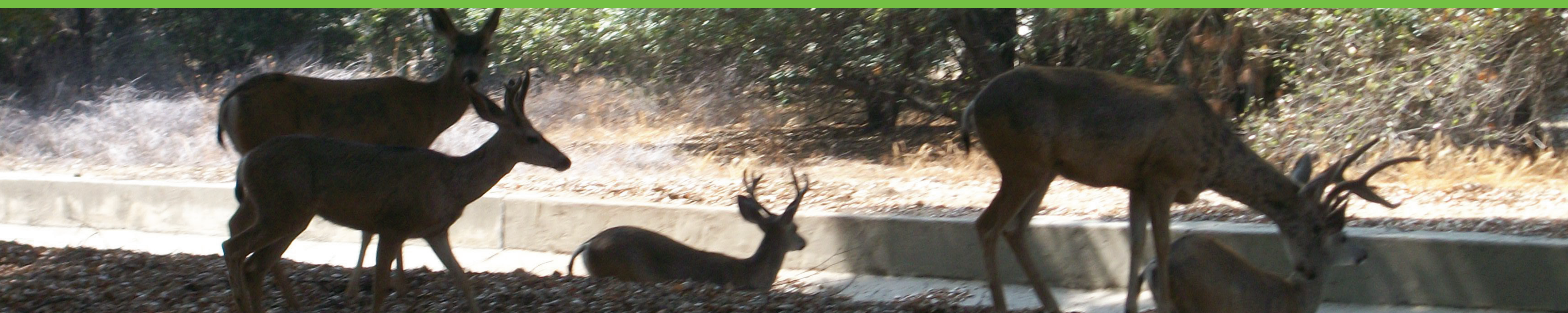
3. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

4. PROJECT PURPOSE/CONSTRUCTION- DAM

5. PROJECT PURPOSE/CONSTRUCTION- DEBRIS DAM

6. PROJECT PURPOSE/CONSTRUCTION- HEADWORKS

7. OAK HABITAT WOODLANDS MITIGATION PROJECT



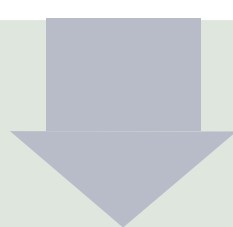
CALIFORNIA ENVIRONMENTAL QUALITY ACT PROCESS

SANTA ANITA STORMWATER FLOOD MANAGEMENT AND SEISMIC STRENGTHENING PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

**LACFCD prepares Initial Study/Mitigated Negative
Declaration (IS/MND) Environmental Analysis**
Start: April 2012



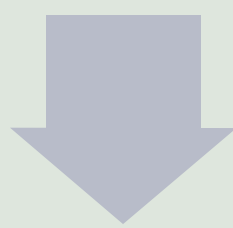
IS/MND 30-Day Public Review Period
Start: Monday, October 20, 2014



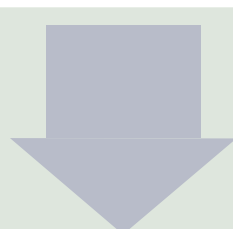
IS/MND 30-Day Public Review Period
End: Wednesday, November 19, 2014
Community Meeting: Wednesday, November 5, 2014



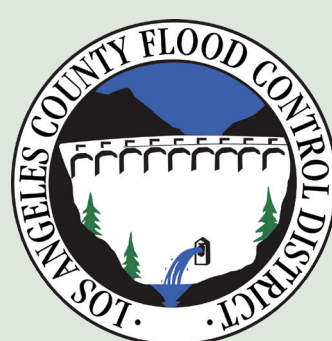
IS/MND Public Review Period Extension
LACFCD courtesy 15-day Review Period Extension
End: Thursday, December 4, 2014



**LACFCD prepares responses to written public
comments for Board of Supervisors consideration**



IS/MND at Board of Supervisors for Certification
March/April 2015



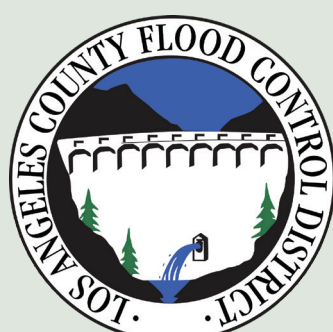
CALIFORNIA ENVIRONMENTAL QUALITY ACT

SUMMARY OF AIR QUALITY, NOISE, AND TRAFFIC MEASURES

RR AQ-1	Construction activities must comply with SCAQMD Rule 403, which requires best available control measures (BACM) for fugitive dust (e.g. stabilizing soil; watering surface soils; covering hauls or providing freeboard; preventing track-out; limiting vehicle speeds; wind barriers).
RR AQ-2	Construction activities must comply with SCAQMD Rule 402, which prohibits discharge of air contaminants that cause injury, detriment, nuisance, or annoyance to the public, or which endanger the comfort, repose, health or safety of the public.

RR NOI-1	Construction activities must comply with County Code and Arcadia Code, which limit construction activities to 7:00 AM to 7:00 PM Monday through Saturday. [County will implement voluntary elimination of work on Saturdays.]
MM NOI-1	Voluntary Measure at Culvert Crossing and Debris Dam: Properly maintained mufflers; distance equipment and staging areas from sensitive receptors; limit haul truck deliveries to same times as construction equipment.
MM NOI-2	Voluntary Measure at Culvert Crossing and Debris Dam: Notify nearby property owners of construction schedule; log complaints and resolutions; if necessary and feasible, modify operations/equipment use and/or add noise attenuation measures.
MM NOI-3	Erect 16-foot tall temporary noise barriers between Debris Dam and residences, and limit to one piece of equipment at full power within 50 feet of residences.
MM NOI-4	Large equipment will be restricted near occupied residence (not applicable to trucks on public right-of-way).

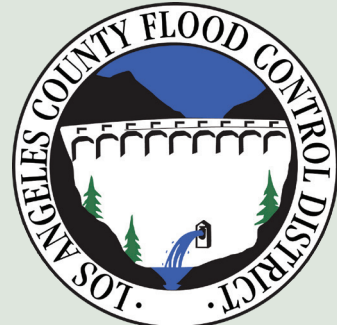
PDF TRA-1	Heavy-duty diesel trucks will avoid Highland Oaks Elementary School crosswalks during peak drop-off hours between 8:00 to 9:00 AM and 2:00 to 3:00 PM.
RR TRA-1	Large equipment movement must comply with Title 16- County Code (includes provisions for size of vehicles, nighttime movement, parking on streets, travel outside of peak hours and holidays, lighting/signage, and restricted routes), and obtain a Caltrans permit required for oversized vehicles.
RR TRA-2	Traffic control must comply with the Standard Specifications for Public Works Construction (Greenbook), which includes provisions for maintenance of access, traffic control, and notification of emergency personnel.
RR TRA-3	Design, construction and operation of helipad must comply with FAA, Caltrans, and Los Angeles County Department of Regional Planning Airport Land Use Commission.



CALIFORNIA ENVIRONMENTAL QUALITY ACT

SUMMARY OF ENVIRONMENTAL TOPICS FOR ANALYSIS

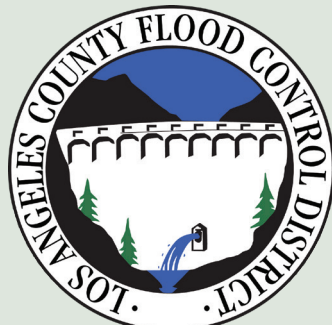
Aesthetics	Scenic vistas, visual character, and light and glare.
Agriculture and Forestry Resources	Agricultural use or zoning and forest/timberland use or zoning.
Air Quality	Increased criteria pollutants, air quality violations, odors, and conformance with air quality management plan.
Biological Resources	Special status species; sensitive vegetation communities; jurisdictional features (e.g., wetlands, drainages); and conformance with policies for biological resource preservation.
Cultural Resources	Historic, archaeological and/or paleontological resources.
Geology/Soils	Geological hazards, such as seismic ground shaking, expansive soils, soil erosion, landslides, or liquefaction.
Greenhouse Gas Emissions	Greenhouse gases and compliance with plans and policies.
Hazards and Hazardous Materials	Transport, generation, emission, and/or disposal of hazardous waste; location adjacent to airport/schools; interference with emergency response plans; wildfire hazards.
Hydrology/Water Quality	Water quality standards; groundwater supplies; alterations to drainage patterns and site runoff; erosion; floodplains; and flooding hazards.
Land Use/Planning	Land use plans, policies, and regulations, including the general plan and zoning and division of communities.
Mineral Resources	Mineral resources of value to the region or State.
Noise	Noise and vibration from construction and operation.
Population/Housing	Population growth or displacement of housing and/or people.
Public Services	Demand for new or expanded fire, police, school, library, and/or park facilities.
Recreation	Demand for new or cause deterioration of existing recreational facilities.
Transportation/Traffic	Traffic plans and policies; increases in local traffic; roadway hazards; emergency access; conflicts with congestion management program; public transit.
Utilities/Service Systems	Adequate water supply, sewer, wastewater treatment, and disposal infrastructure.

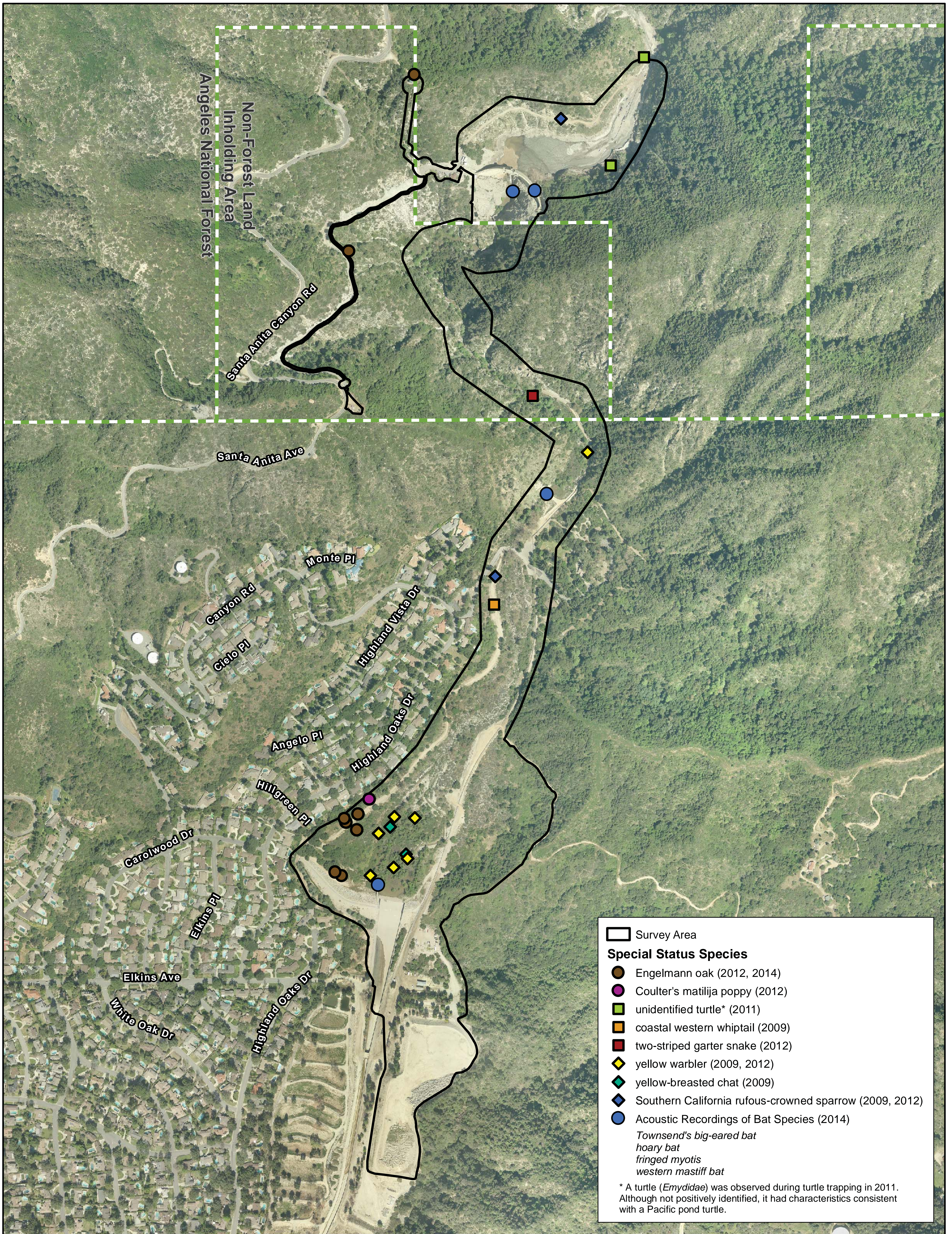


CALIFORNIA ENVIRONMENTAL QUALITY ACT

SUMMARY OF BIOLOGICAL RESOURCES MEASURES

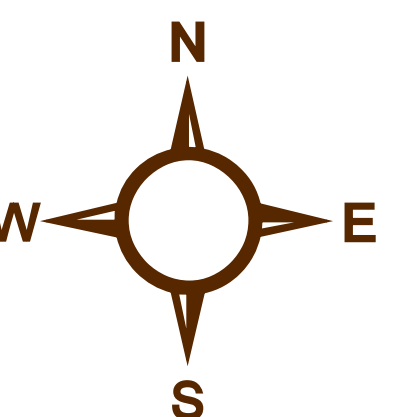
PDF BIO-1	Biological Monitoring will be conducted during construction, providing environmental awareness training and permit overview to the Contractor. This also includes conducting a pre-construction clearing of wildlife from work areas.
MM BIO-1	<p>Tree Preservation, Monitoring, and Replacement:</p> <ul style="list-style-type: none">• Sycamore replacement, if trees are impacted, shall be minimum of 1:1 at a box size of 24-inches;• Oak tree at Culvert Crossing shall be protected in place, all nearby work shall be monitored for health by a Certified Arborist during and after construction, and if health fails, trees shall be replaced at a minimum of 1:1 at a box size of 24-inches;• To protect native trees, work areas shall be fenced to protect tree drip lines and a Certified Arborist shall supervise any substantial tree trimming or other activities within a tree protection area;• At the Debris Dam inundation area, a Certified Arborist shall monitor the health of 20 native trees over the course of 5 years for signs of potential negative health effects from flooding, using photographs and a health rating scale. If any trees have declining health of two or more ratings, they shall be monitored for an additional two years. If impacted, they shall be replaced at 1:1 in accordance with a Habitat Mitigation Monitoring Program.
MM BIO-2	Prior to the initiation of dewatering/construction at the Dam, Headworks, and Debris Dam, a Biologist will conduct pre-construction trapping and relocation of the Pacific pond turtle, two-striped garter snakes, or other special status species captured. Prior to relocating any of these species, the USFS and the CDFW shall approve the potential relocation site(s) and methods for transferring the turtles/snakes to the relocation sites.
MM BIO-3	Nesting birds and raptors shall be protected in compliance with the Migratory Bird Treaty Act. Pre-construction surveys must be performed and exclusionary measures may be used under the consultation of a qualified Biologist. If active nests are found within work areas, the Biologist shall establish a buffer zone to protect the nest until nesting has ended.
MM BIO-4	Bats shall be deterred from roosting in work areas by draining or re-routing water at least one month before construction, and through exclusionary measures, if desired. If bats are found through pre-construction surveys, exclusionary measures (one-way doors, netting, or wire mesh) shall be installed and supervised by a qualified Biologist.
MM BIO-5	<p>All necessary permits for impacts to “waters of the United States” and “waters of the State” shall be obtained from applicable resource agencies, including the USACE, the RWQCB, and CDFW.</p> <p>Potential mitigation options shall include one or more of the following: (1) payment to a mitigation bank or regional riparian enhancement program (e.g., invasive plant or wildlife species removal) and/or (2) restoration of riparian habitat either on site or off site at a ratio of no less than 1:1.</p> <p>If in-lieu mitigation fees are required, the LACFCD shall pay the in-lieu mitigation fee to a mitigation bank/enhancement program for the in-kind (equivalent vegetation type and acreage) replacement of impacted jurisdictional resources.</p> <p>If a Restoration Program is required, LACFCD shall prepare and submit a Riparian Habitat Mitigation and Monitoring Program (HMMP) for USACE and CDFW approval.</p>

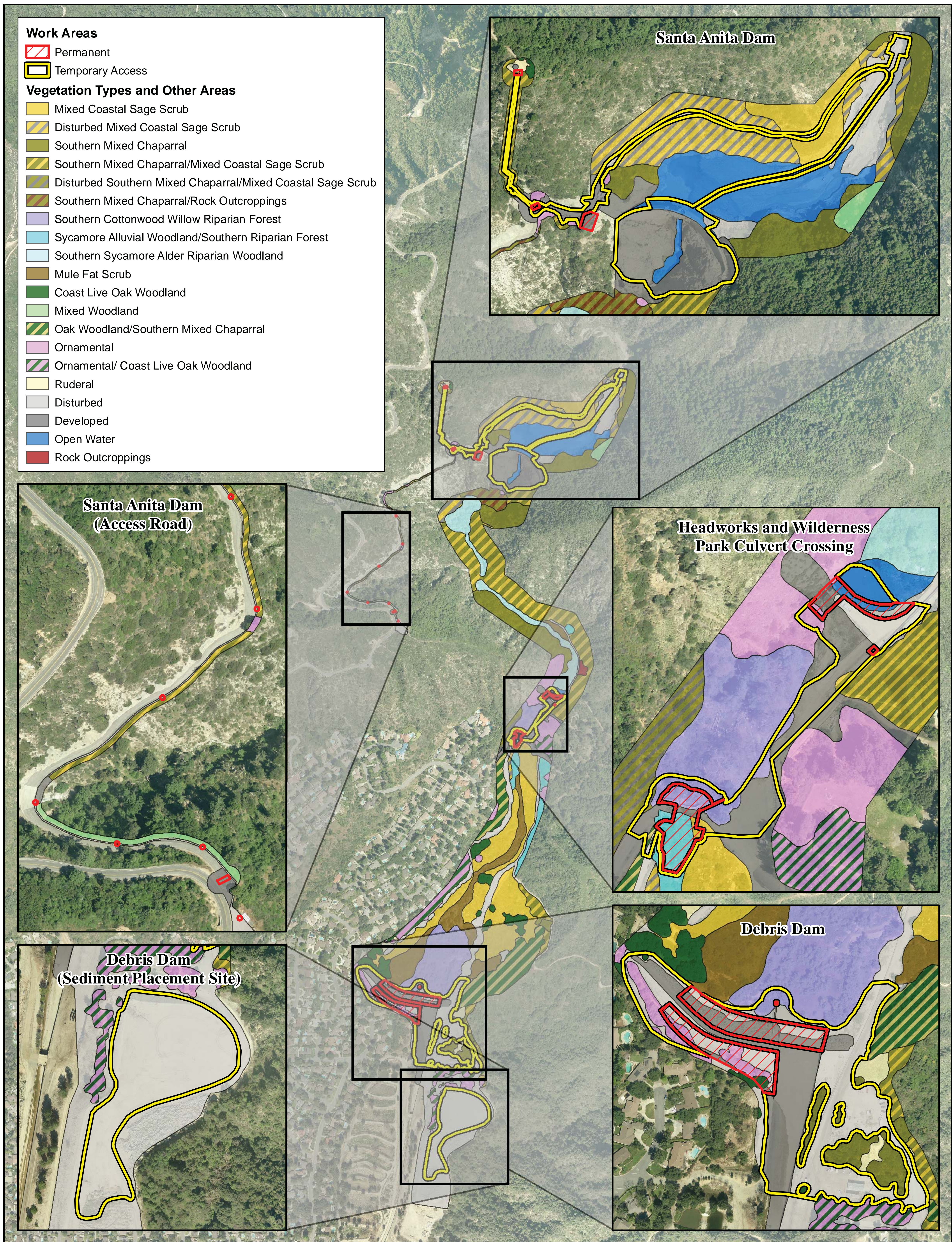




SPECIAL STATUS SPECIES OBSERVED

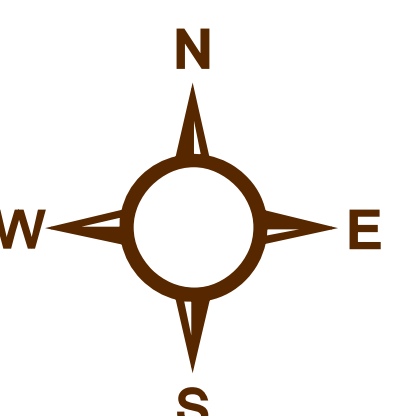
Santa Anita Stormwater Flood Management and Seismic Strengthening Project



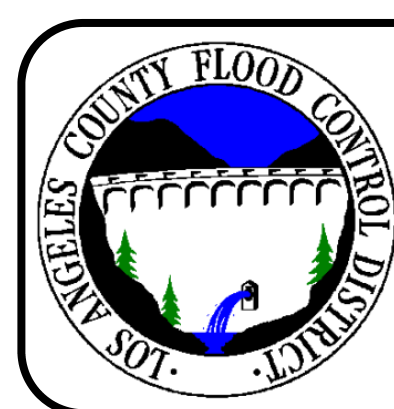


WORK AREAS

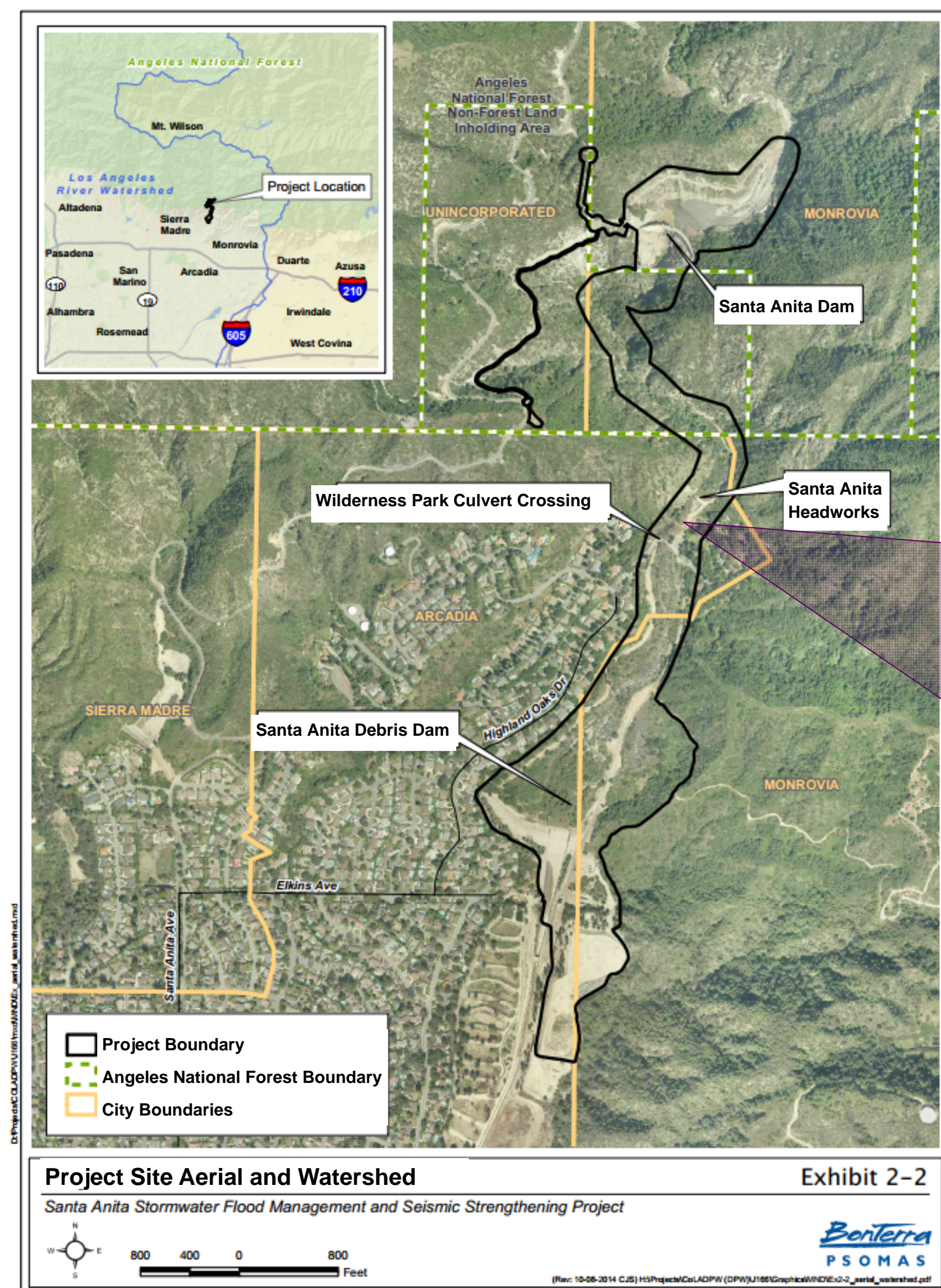
Santa Anita Stormwater Flood Management and Seismic Strengthening Project



SANTA ANITA STORMWATER FLOOD MANAGEMENT AND SEISMIC STRENGTHENING PROJECT



HEADWORKS AND CULVERT CROSSING



ANTICIPATED CONSTRUCTION
Start: Spring 2016 Duration: 6 mos



CULVERT CROSSING IMPROVEMENTS

- Existing corrugated metal pipe culvert crossing allows access to the Arcadia Wilderness Park.
- Existing culvert crossing overtops approximately once every 2-3 years.
- Proposed pre-cast concrete culvert crossing will be an open span to allow for higher storm flows.
- Proposed widening will allow for emergency vehicles to safely access the Park.



VIEW SIMULATION



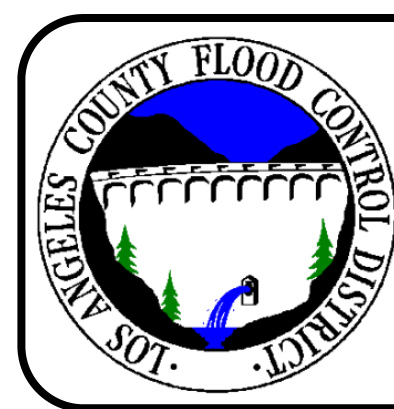
HEADWORKS IMPROVEMENTS

- Replace radial gate with Rubber Diversion Structure to optimize operations.
- Increase levee height and armor side slopes to minimize erosion.
- Install electric motor operated gates and control system.

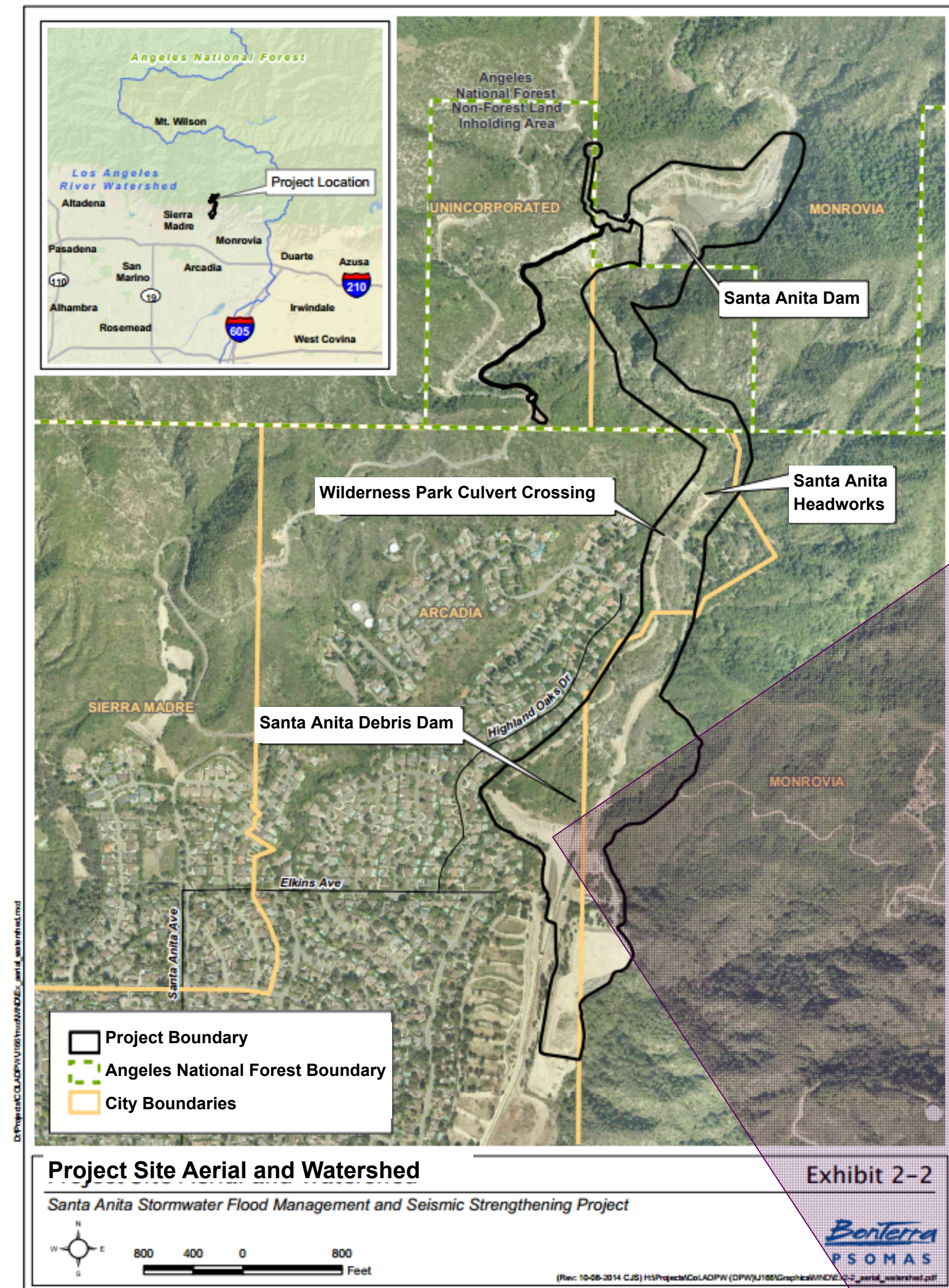


RUBBER DIVERSION STRUCTURE

SANTA ANITA STORMWATER FLOOD MANAGEMENT AND SEISMIC STRENGTHENING PROJECT



SANTA ANITA DEBRIS DAM



ANTICIPATED CONSTRUCTION
Start: Summer 2016 Duration: 6 mos



SPILLWAY FLOWS



PROPOSED SPILLWAY BUTTRESS



EXISTING OUTLET TOWER



CONCEPTUAL EMBANKMENT BUTTRESSES

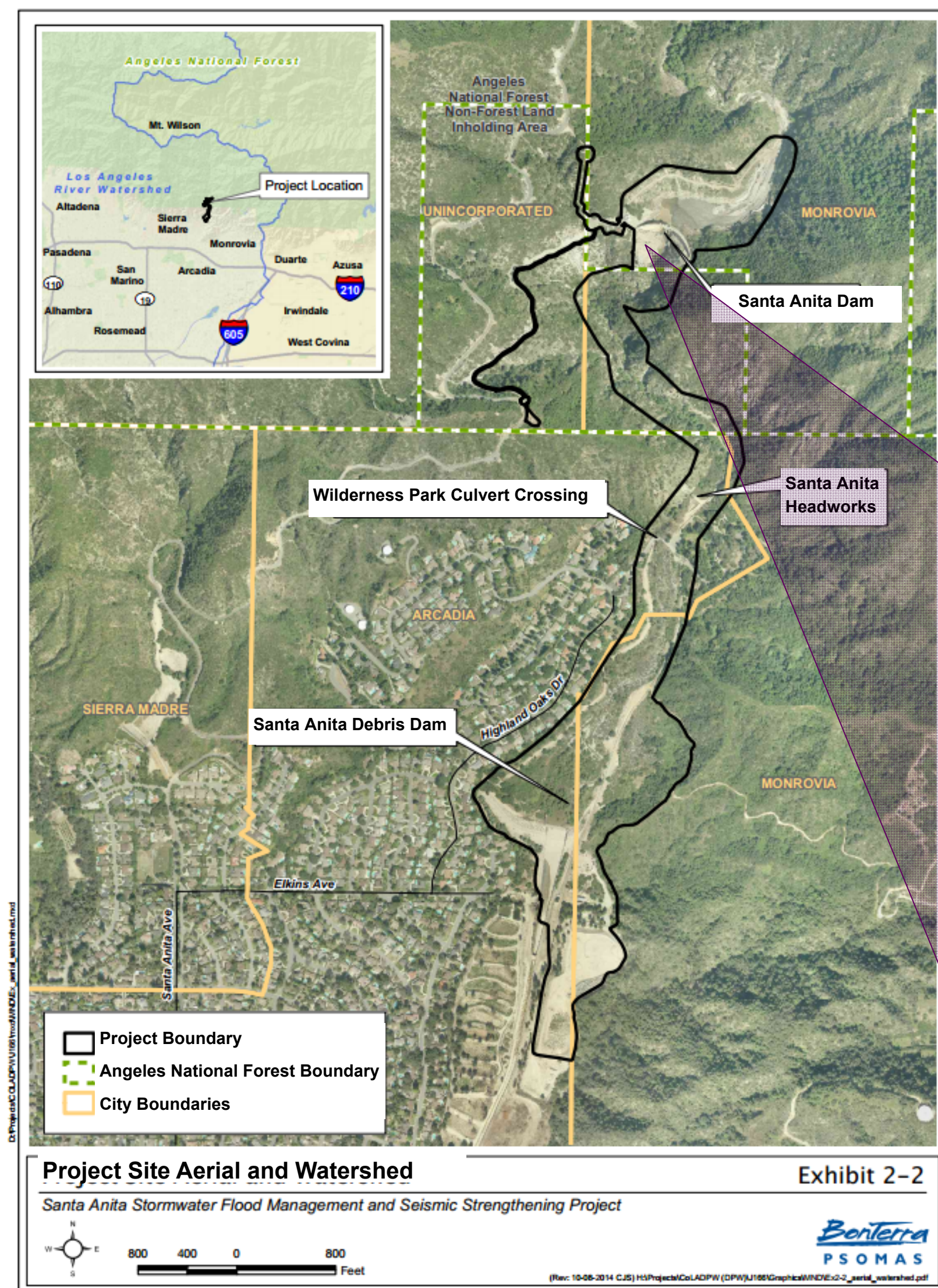
DEBRIS DAM IMPROVEMENTS:

- Replace existing outlet tower, install new gates, and rehabilitate outlet pipe
- Install supplemental inclined outlet tower
- Buttress spillway walls
- Buttress westerly embankment both up-stream and downstream
- Install new control system

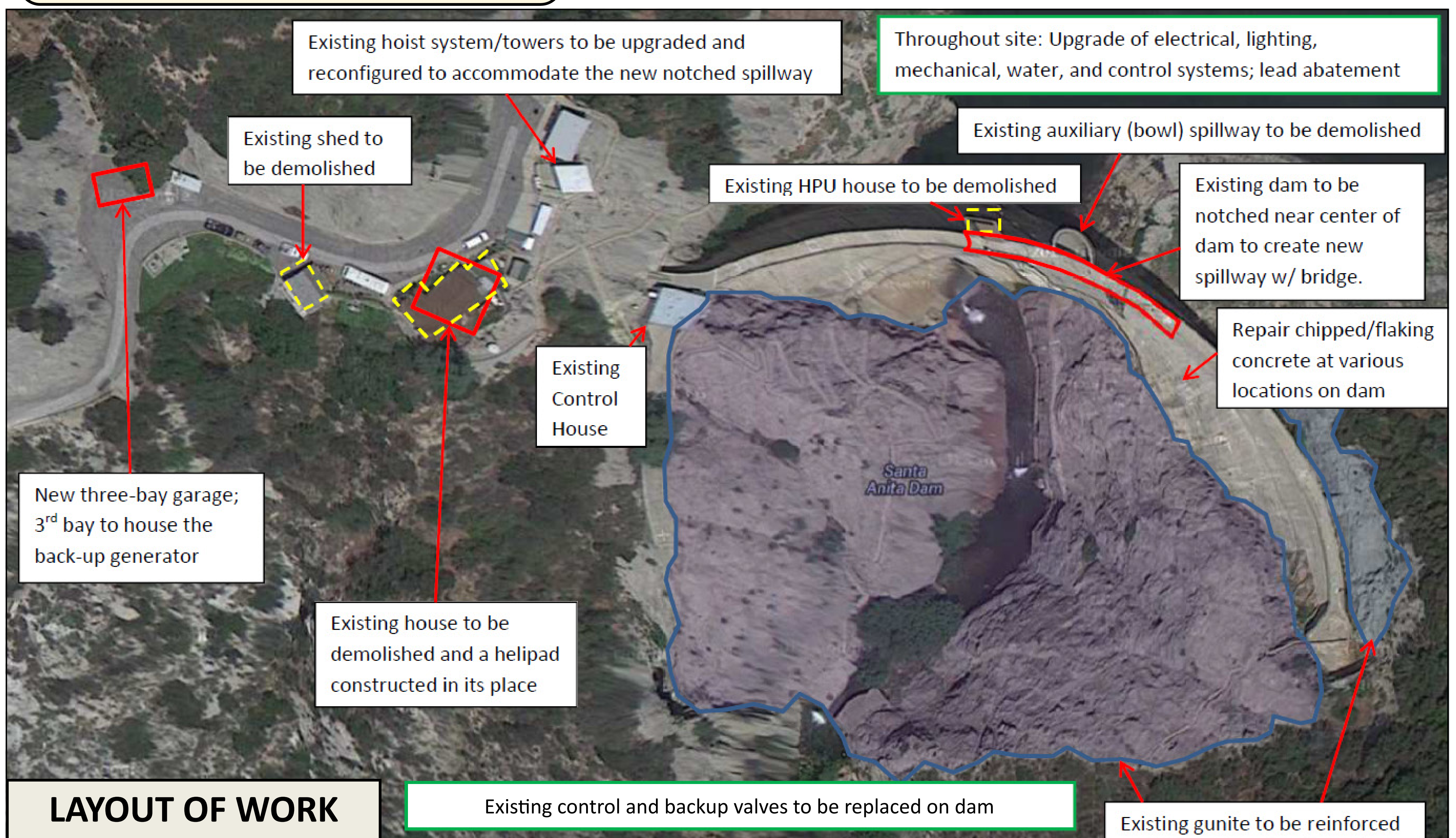


FULL RESERVOIR

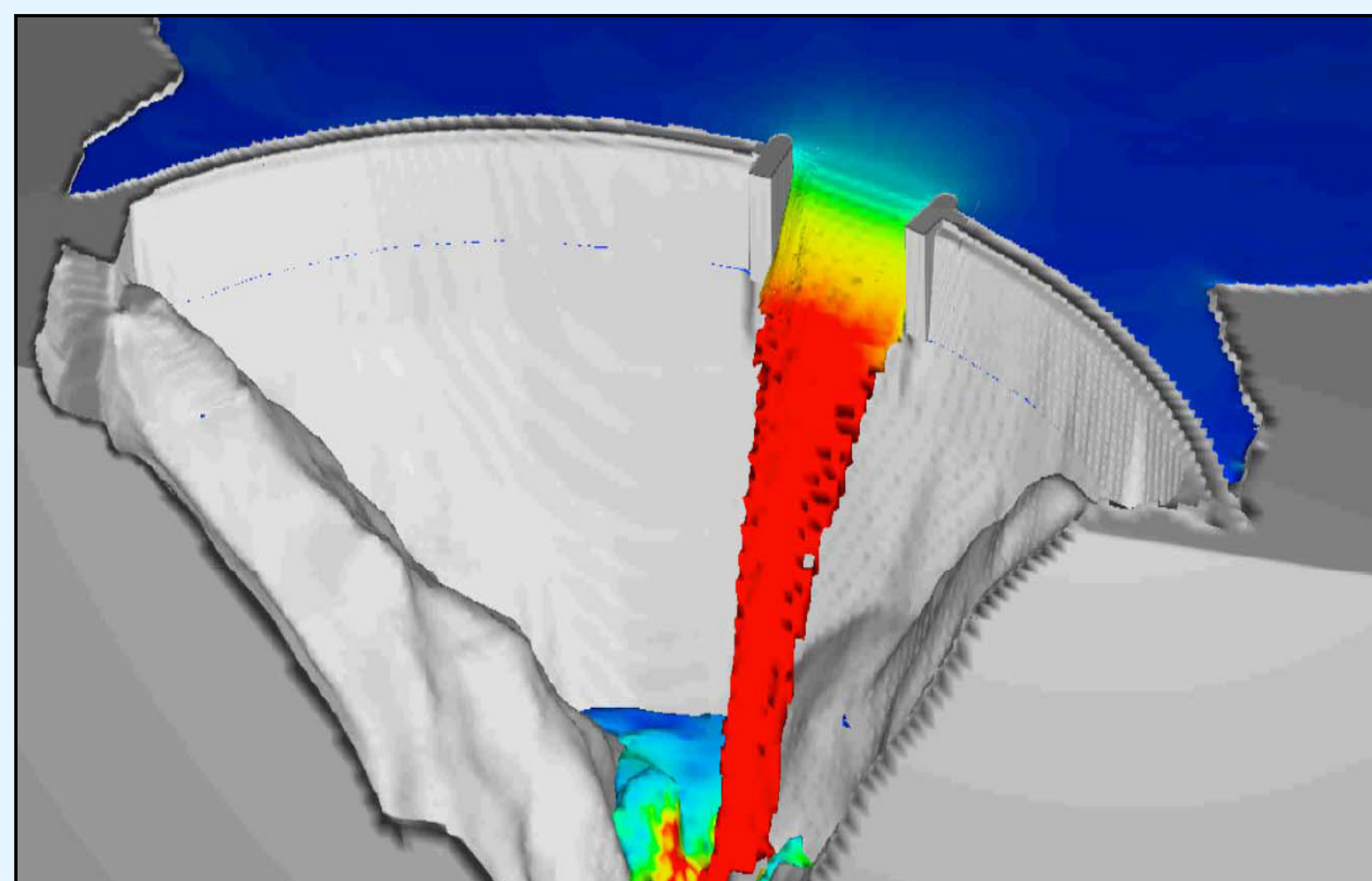
A large, curved concrete dam with a spillway releasing water. An inset image shows a closer view of the dam's structure and the water flowing over the spillway.



Start: Late 2015 Duration: 10 mos



- **New security gate at entrance (including utilities along road).**
- **Stabilization of slope beneath water tank.**



AERIAL OF RESERVOIR

Coast Live Oak Woodland Creation on the Santa Anita Sediment Placement Site



Planted coast live oak seedling (*Quercus agrifolia*) growing among placed oak snags, boulders, and developing understory vegetation. The coastal foothills of the San Gabriel Mountains are in the background.

In consultation with the California Department of Fish and Wildlife (CDFW), and in compliance with Environmental Impact Report (EIR) Mitigation Measures and CDFW Streambed Alteration Agreement Conditions, the County of Los Angeles Department of Public Works (LACDPW) retained BonTerra Psomas (Psomas) to prepare the Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project (OWHRMP). Psomas participated in community outreach for the mitigation program, and is implementing the habitat creation program described in the approved OWHRMP.

The goal of the OWHRMP is to establish a total of 5.5 acres of diverse, self-sustaining coast live oak woodland habitat and 2.5 acres of coastal sage scrub habitat on LACDPW's Lower Sediment Placement Site (SPS), located on its Santa Anita Dam facility in the City of Arcadia, Los Angeles County, California.

The OWHRMP includes a seven to ten-year maintenance and monitoring program, with quantitative sampling (quadrats/ transects), photo documentation, diversity analyses (e.g., Shannon Diversity Index), and comparative surveys of pre-existing habitat areas.

Everything New is Old



Installation of salvaged oak snags.

Compared to old-growth habitats, woodland restoration sites may lack coarse woody debris (CWD; fallen logs, brush piles, etc.), soil biota (decaying roots, micro-organisms, invertebrates, etc.), and hydrologic and topographic variation, which provide important habitat functions and values. LACDPW and its consultants employed intensive measures to provide these habitat elements *ab initio*.

- Spiraling drainage channels optimize percolation of off-site/inflow storm water, doubling incident precipitation amounts. Check dams attenuate flows and promote riparian conditions.

- Psomas' subcontractor Nakae & Associates, Inc. (Nakae) performed various site preparation tasks, including the naturalistic installation of many tons of stockpiled logs, boulders, brush piles, and mulched vegetation with heavy machinery.

- Urea was added to balance soil nitrogen upon the decay of the incorporated mulch, which was ripped to a minimum soil depth of two feet. Soil surfaces were left in a roughened condition, with ample micro-topographic variation of pits and hummocks.

- Nakae has performed assertive, preliminary/ongoing weed control to avoid weed species growth/re-infestation, including sizeable off-site buffer areas.

By including these biotic and abiotic habitat features at the start of the program, decay processes (fungi, detritivores, etc.), wildlife niches, and soil hydrologic gradients were initiated/created that would not otherwise naturally occur on an oak woodland restoration site for many decades (if at all).

Not Ready for (Certain) Guests

- A temporary, eight-foot exclusionary fence (wood posts/smooth wire) was installed to deter herbivory and trampling of oak seedlings by large mammals (i.e., mule deer [*Odocoileus hemionus*], American black bear [*Ursus americanus*]).
- Off-site wildlife 'drinkers' were installed prior to the completion of the fence to habituate wildlife to this alternate water source. Bears/deer and tracks of other species have been observed at the drinkers, which are periodically drained, cleaned, and re-filled to avoid algae and mosquito problems.
- Interpretive signage educates residents on the goals of the program and provides contacts information.

Locals Only

Psomas and its subcontractors Rancho Santa Ana Botanic Garden (RSABG) and S&S Seeds, Inc. (S&S) perform ongoing propagule collection. 70+ plant species have been collected onsite and in 1,000+ acres of habitat in the Santa Anita Wash/Rio Hondo Sub-Watershed, by agreement with the Cities of Arcadia/Monrovia/Sierra Madre.

- Strictly local propagules are used to maintain the unique genetic resources of adjacent wildland areas.

- S&S started collection in 2011 (3 years early) to allow for annual weather variations and other factors affecting seed production and viability for a variety of native tree/shrub/herb/grass species.
- S&S collected coast live oak acorns (*Quercus agrifolia*) from 50+ trees to capture the genetic diversity of the oak population
- RSABG collected acorns of rare oaks (i.e., San Gabriel Mountains leather oak [*Q. durata* var. *gabrielensis*], Engelmann oak [*Q. engelmannii*]; and rhizomes of native ferns (coastal wood fern [*Dryopteris arguta*], coffee fern [*Pellaea andromedifolia*], birdfoot cliffbrake [*Pellaea mucronata*], and California polypody [*Polypodium californicum*]) for vegetative propagation.
- Psomas collected rooted cuttings of several native plant species onsite for direct planting (e.g., mugwort [*Artemisia douglasiana*], basket rush [*Juncus textilis*], skunkbush [*Rhus aromatica*], and California blackberry [*Rubus ursinus*]).
- 400+ pounds of native seed have been collected thus far; a total of 72 native plant species have been installed by various methods.

Be Diverse and Multiply



Vegetative propagation of *Pellaea mucronata*.



Planted *Ribes aureum* adjacent to a placed brush pile.

- To date, Psomas' subcontractor El Nativo Growers (ENG) has propagated 7,000 container plants of 27 native plant species, including 5,000 plants installed in early 2014 and 2,000 plants to be installed in fall 2014.
- Due to recent drought, seed for several plant species has been scarce or unavailable; therefore, several of these additional species will be vegetatively propagated in 2015.
- RSABG propagated fern species as 5-gallon 'stock plants', from which 4-inch container plants will be derived from year to year.

Installation Art

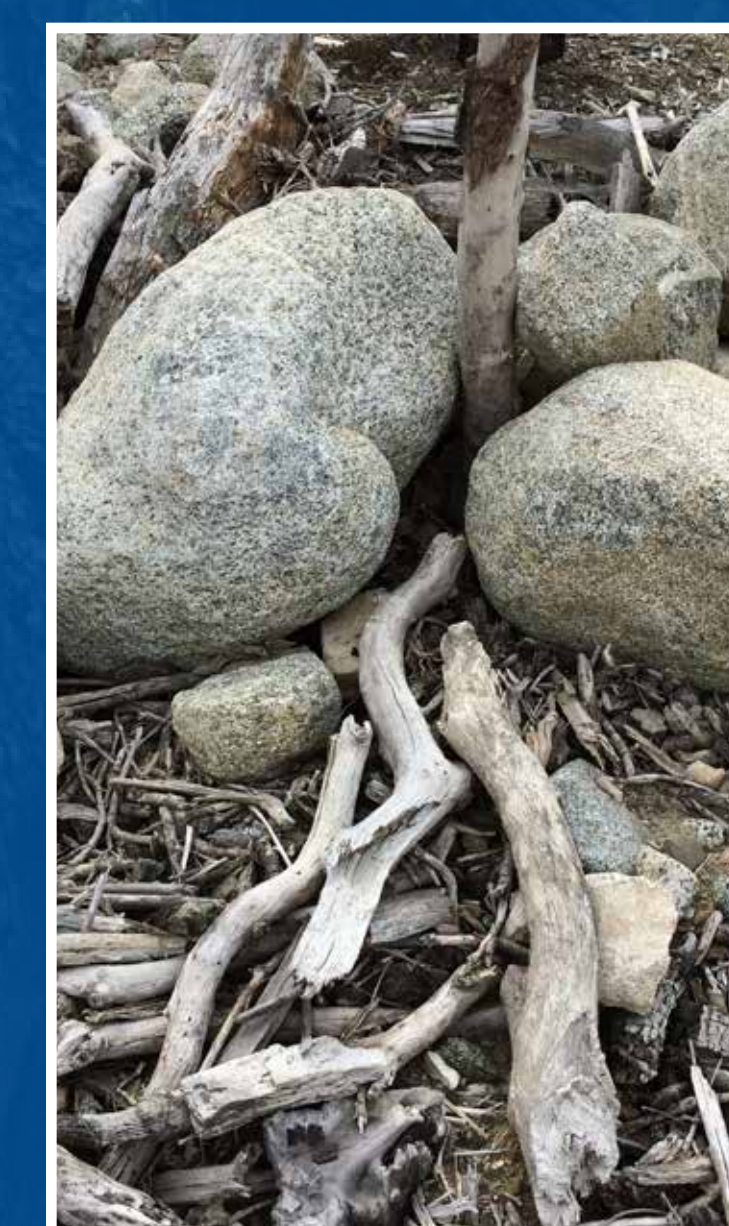
Nakae started plant materials installation in January 2014.

- The irrigation system, designed by Cornerstone Studios, Inc., includes low-discharge-rate heads and separate bubbler heads for each oak to facilitate infrequent, deep watering.



Diverse native herbs among coarse woody debris and planted oaks.

- Psomas Ecologists flagged the planting locations in a naturalistic distribution, including patches with succulents (i.e., Vasey's prickly pear [*Opuntia x vaseyi*], chaparral yucca [*Hesperoyucca whipplei*] and herbs (e.g., deerweed [*Acmispon glaber*], California everlasting [*Pseudognaphalium californicum*], showy penstemon [*Penstemon spectabilis*]) to diversify vegetation composition.
- Native 'volunteer' plant species (e.g., morning glory [*Calystegia macrostegia*], field suncup [*Eulobus californicus*], and wrinkled rush [*Juncus rugulosus*]), were protected during installation.
- Nakae sowed 10 acorns per location, with light soil re-compaction; built 24-inch tall/20-inch diameter, temporary wire cages (above-ground); applied oak leaf mulch; and attached shade cloth (70%) to the sides/tops of each cage for each oak planting site.
- Most oak plantings are on northeast aspects of boulder/CWD-assemblages (e.g., shading, wind protection, persistent soil moisture). Other oaks were provided with 'nurse plants' (e.g., California sagebrush [*Artemisia californica*]) on the southwest aspect.
- An oak seedling was planted in each location for comparative growth evaluation versus direct-seeding. Oaks will eventually be thinned to yield a single healthy tree in each cage.
- Nakae applied seed mixes via hydroseeding (CSS slopes) or hand seeding (oak woodland creation areas). Hydroseed was applied with Flexterra™ medium and AM-120™ mycorrhizal inoculum. Hand-seeding was performed by scratching the seed (and AM-120™) into the soil with steel rakes.



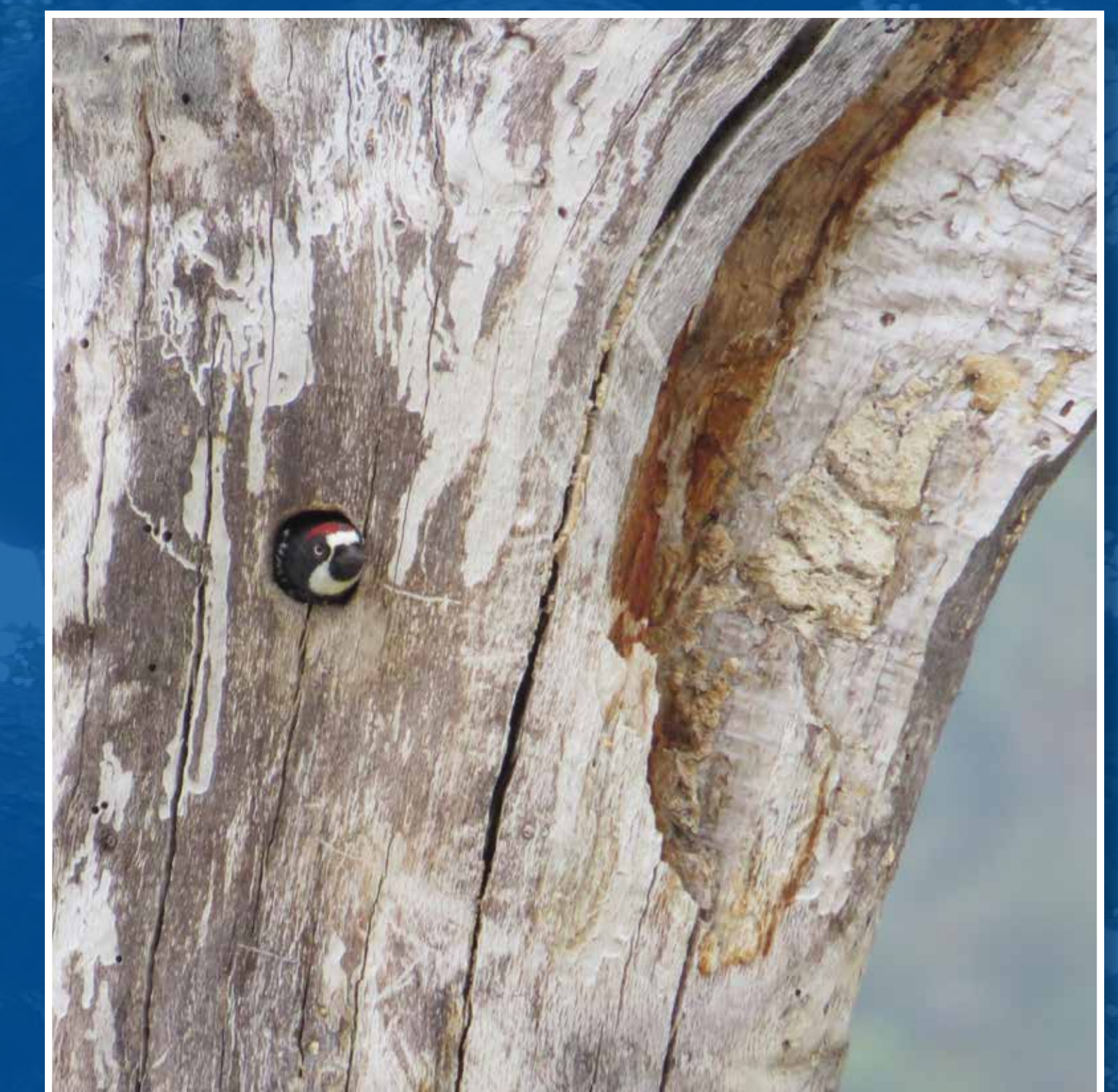
A naturalistic assemblage of boulders and woody debris.



Bracket fungi on placed coarse woody debris.

If You Build It...

- Since project initiation (September 2013), 50+ vertebrate wildlife species have been observed on the previously barren site.
- Acorn woodpeckers (*Melanerpes formicivorus*) have already successfully nested in cavities of the artificial snags. Other birds nesting onsite in 2014 include common yellowthroat (*Geothlypis trichas*) and killdeer (*Charadrius vociferus*).
- California striped racers (snake) (*Coluber lateralis lateralis*), rock wrens (*Salpinctes obsoletus*), and California ground squirrels (*Spermophilus beecheyi*) are among the species using the boulder assemblages. Lewis's woodpecker (*Melanerpes lewis*) was a notable seasonal visitor to the site in 2013 and 2014.



Acorn woodpeckers nesting in one of the placed oak snags.

- Cooper's hawk (*Accipiter cooperii*), merlin (*Falco columbarius*), and other raptors have been observed. Owl 'pellets' have been found underneath the snags.
- Numerous invertebrates (e.g., green sweat bees [*Agapostemon* sp.], acorn blue butterflies [*Icaricia acmon*], tarantula hawk wasps [*Pepsis formosa*]) have also been observed.
- 85+ native plant species occur in the 8.0-acre creation area, and several dozen additional species (plants/cuttings/seed) will be introduced to the site in fall 2014. Despite the small quantities (< 0.05 pound) of some applied seed (e.g., longstem buckwheat [*Eriogonum elongatum*] and Douglas' threadleaf ragwort [*Senecio flaccidus* var. *douglasii*]), many of these species occur on the site.

