

August 30, 2019

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**VIA EMAIL**  
**MarLee@dpw.lacounty.gov**

**Subject:** Status Report for the Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project, Los Angeles County, California

Dear Ms. Lee:

This status report provides a summary of July/August 2019 site conditions for the Los Angeles County Public Works' (Public Works') 2014 *Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project* (OWHRMP). The OWHRMP describes the creation of 5.5 acres of oak woodland habitat and 2.5 acres of sage scrub habitat as compensation for impacts associated with the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project. The mitigation site locations are shown in Exhibits 1, 2, and 3. Photographs of the site are provided in Attachment A.

#### **SUPPLEMENTAL PLANTING – FEBRUARY 2019**

The Restoration Contractor (Nakae & Associates, Inc.) (Nakae) installed a total of 140 native container plants on the oak woodland mitigation site in February 2019. The container plants were obtained from Psomas' subcontractor Rancho Santa Ana Botanic Garden (RSABG), who had propagated the materials from propagules that were obtained within the Santa Anita Wash-Rio Hondo sub watershed. The container plants were installed along the dual drainages, and in the small/mesic canyon in the northern part of the oak woodland planting area, in locations where Psomas' Restoration Ecologist had placed color-coded wire flags. A list of the container plants that were installed in February 2019 is provided in Table 1.

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**TABLE 1  
 SUPPLEMENTAL CONTAINER PLANTS – FEBRUARY 2019**

Plant Species		Container Size	Quantity
Botanical Name	Common Name		
<i>Epilobium canum</i> ssp. <i>canum</i>	California fuchsia	Treeband	40
<i>Pellaea andromedifolia</i>	coffee fern	4-inch	15
<i>Penstemon heterophyllus</i> var. <i>australis</i>	southern bunch leaf beardtongue	Treeband	5
<i>Polypodium californicum</i>	California polypody	4-inch	10
<i>Ribes californicum</i> var. <i>hesperium</i>	hillside gooseberry	Treeband	25
<i>Ribes malvaceum</i> var. <i>viridifolium</i>	green leaf-shaped currant	Treeband	5
<i>Rosa californica</i>	California rose	Treeband	40
<b>Total</b>			<b>140</b>

**MITIGATION MAINTENANCE AND MONITORING**

The Restoration Contractor (Nakae & Associates, Inc.) (Nakae) promptly treats or removes non-native plant species when observed during regular maintenance activities. To the extent practicable, weeds are removed prior to seed production/dispersal to avoid re-infestation of the site. Herbicide use is currently suspended per Public Works direction. Nakae also performs regular maintenance of the concrete drainages and inlets on the Lower SPS, the exclusionary fencing on the deck of the Lower SPS, and the wildlife ‘drinker’ tanks that were placed at the northeast corner of the site. The most recent clean-out of the Lower SPS drainages and inlets occurred in August 2019, and Nakae will ensure that these features are clean and ready for any storm events that occur during the current maintenance contract period (i.e., through December 31, 2019).

As of August 28, 2019, Public Works’ website indicated that a total of 28.21 inches of precipitation was recorded (via gauge data) at the Arcadia Fire Station location (0.5 mile from the Lower SPS; similar elevation) since October 1, 2018. The normal seasonal average of precipitation at Public Works’ Arcadia gauge location is 21.34 inches for the period of October 1 to September 30; therefore, the annual precipitation for the current rain year (October 1, 2018 to September 30, 2019) is approximately 32 percent above the average annual rainfall amount for this locality. Psomas’ Restoration Ecologist performed a site inspection on the Lower SPS during a robust rain event on January 17, 2019. During the January 17, 2019 inspection, Psomas observed *continuous* storm flow within both of the (dual) spiraling drainages, from the inflow point (along the east edge of the mitigation site) to the outlet tower in the center of the Lower SPS. Such continuous flows demonstrate that hydrologic benefits for native vegetation establishment (including the planted oaks) are distributed across the full deck area of the Lower SPS, as intended per Public Works’ spiraling drainage design.

Supplemental irrigation was suspended on the oak woodland (SPS deck) mitigation site from October 2016 to February 2018; however, due to acute/prolonged drought conditions, operation of the bubbler system (only) was resumed with Public Works’ approval on February 28, 2018. With the onset of seasonal rains, bubbler irrigation was discontinued (again) in October 2018. Irrigation has not been applied to the sage scrub planting areas (SPS slopes) since June 9, 2015. The use of irrigation will be phased-out as soon as possible (based on year-to-year weather conditions) to foster adaptation of native plant species to the typical arid growing conditions in this region. Psomas’ Certified Arborist performed an assessment of the planted oaks on August 13, 2019 and observed that, as of this date, the planted oaks did not exhibit signs of undue seasonal (mid-summer) drought stress, despite the cessation of irrigation in October 2018. It is anticipated that, unless there is an extended period of acute drought on the mitigation

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site within the remainder of the 7- to 10-year maintenance period (Year Five ends on December 31, 2019), no additional irrigation of the oak trees will be required for proper long-term establishment.

The Biological Monitor coordinates with Nakae on the identification of native/non-native plant species and methods of weed removal. The Biological Monitor also notes all wildlife species observed on the site and ensures that maintenance activities do not adversely impact sensitive biological resources.

## MITIGATION PERFORMANCE

The mitigation site supports an excellent diversity of plant and animal species and continues to develop vegetation structure/cover. The mitigation site exceeded several of the seven-year to ten-year vegetative performance criteria, as measured during the fourth annual survey that was performed in spring 2019. As of August 2019, a total of 147 native plant species have been observed on the site, including trees, shrubs, sub-shrubs, vines, succulents, herbs, grasses, ferns, spike-moss, and emergent plant species. A total of 106 native vertebrate wildlife species (87 native bird species) have been observed on the site, in addition to numerous native invertebrate species (e.g., butterflies, beetles, bees, dragonflies) since project initiation in September 2013. A total of 14 different species of native birds have been documented nesting on the mitigation site since project initiation. The planted oaks exhibit excellent growth and survival, and there is a diverse mosaic of associated understory vegetation. Many of the oak saplings now exceed 10 to 12 feet in height. The placed substrate enhancements (natural snags, coarse woody debris, brush piles, boulder assemblages) provide valuable cover for wildlife species and habitat niches for the establishment of a variety of plant species (e.g., ferns).

Several ‘camera traps’ (motion-activated video cameras) were installed on and adjacent to the mitigation site to provide enhanced, 24-hour wildlife observation data. Wildlife species—including coyote (*Canis latrans*), bobcat (*Lynx rufus*), southern mule deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), common gray fox (*Urocyon cinereoargenteus*), and black bear (*Ursus americanus*)—have been observed via camera traps.

The California Department of Fish and Wildlife (CDFW) has authorized Public Works to discontinue the requirement for surveys of the reference site for the duration of the mitigation program. Qualitative and quantitative monitoring of the mitigation site will continue through Years 7 to 10 until the mitigation program has been signed off by the CDFW and the City of Arcadia.

## ADDITIONAL NON-NATIVE TREE REMOVAL

Psomas recommends that Public Works remove the non-native pine trees from Buffer Area 3a outside the nesting bird season which is defined by project permits as February 1 to September 15. Some of these non-native pines are already dead or exhibit substantial die-back due to ongoing drought conditions that occurred prior to the 2018-2019 rainy season. The non-native pine trees were planted on the Lower SPS slopes (outside the boundary of the 8.0-acre mitigation site) many years prior to the implementation of the Santa Anita mitigation program. To the extent practicable (i.e., avoiding subsequent fall hazard conditions), it is recommended that the trees be pruned (under the supervision of the Biological Monitor) to retain beneficial snags for wildlife use (e.g., perching birds) rather than being wholly removed via cutting to stumps at ground level.

Native volunteer vegetation (shrubs, herbs) is increasingly becoming established in the Buffer Areas (including Buffer Area 3a) due to Public Works’ performance of voluntary, ongoing weed abatement in these areas.

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There are several very large/mature, planted Torrey pine trees (*Pinus torreyana*) in Buffer Area 3a. Although native to the State of California (coastal San Diego County; Santa Rosa Island [Channel Islands]), the Torrey pine is not native to the Santa Anita project site; however, Psomas recommends that the living Torrey pine specimen trees be retained on the Lower SPS to provide habitat value for wildlife.

Please call Richard Lewis at (626) 351-2000 with any questions regarding this report.

Sincerely,

**P S O M A S**



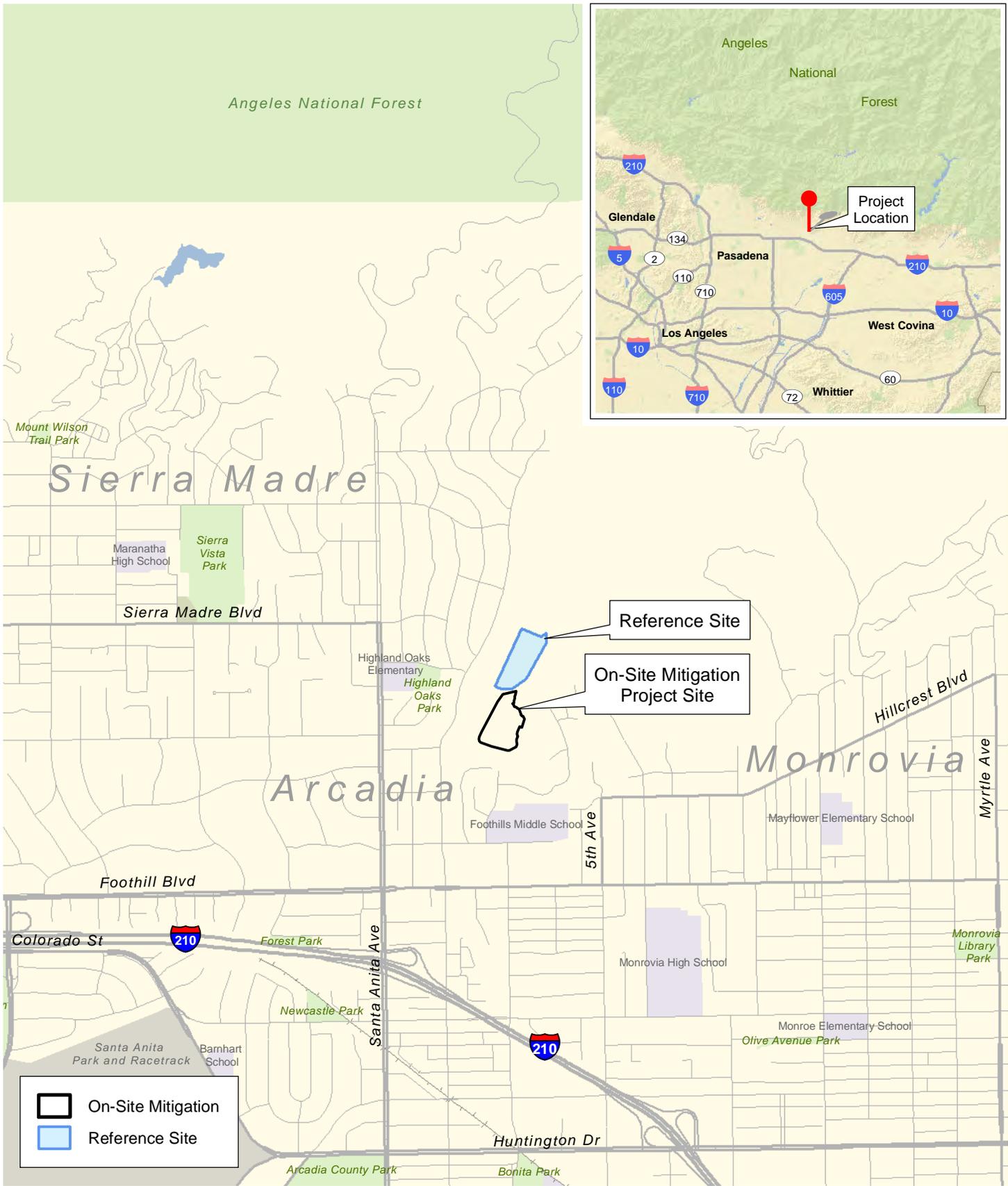
Melissa A. Howe  
Vice President, Resource Management



Richard B. Lewis, III, ENV SP  
Senior Project Manager

Enclosures:    Exhibit 1 – Project Vicinity  
                  Exhibit 2 – Sediment Placement Site Locations  
                  Exhibit 3 – Mitigation Site Location (Lower Sediment Placement Site)  
                  Attachment A – Site Photographs

cc:            Wayne Lee (WaLee@dpw.lacounty.gov)  
                  Marc Blain, Psomas

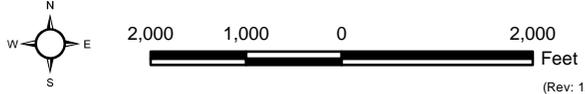


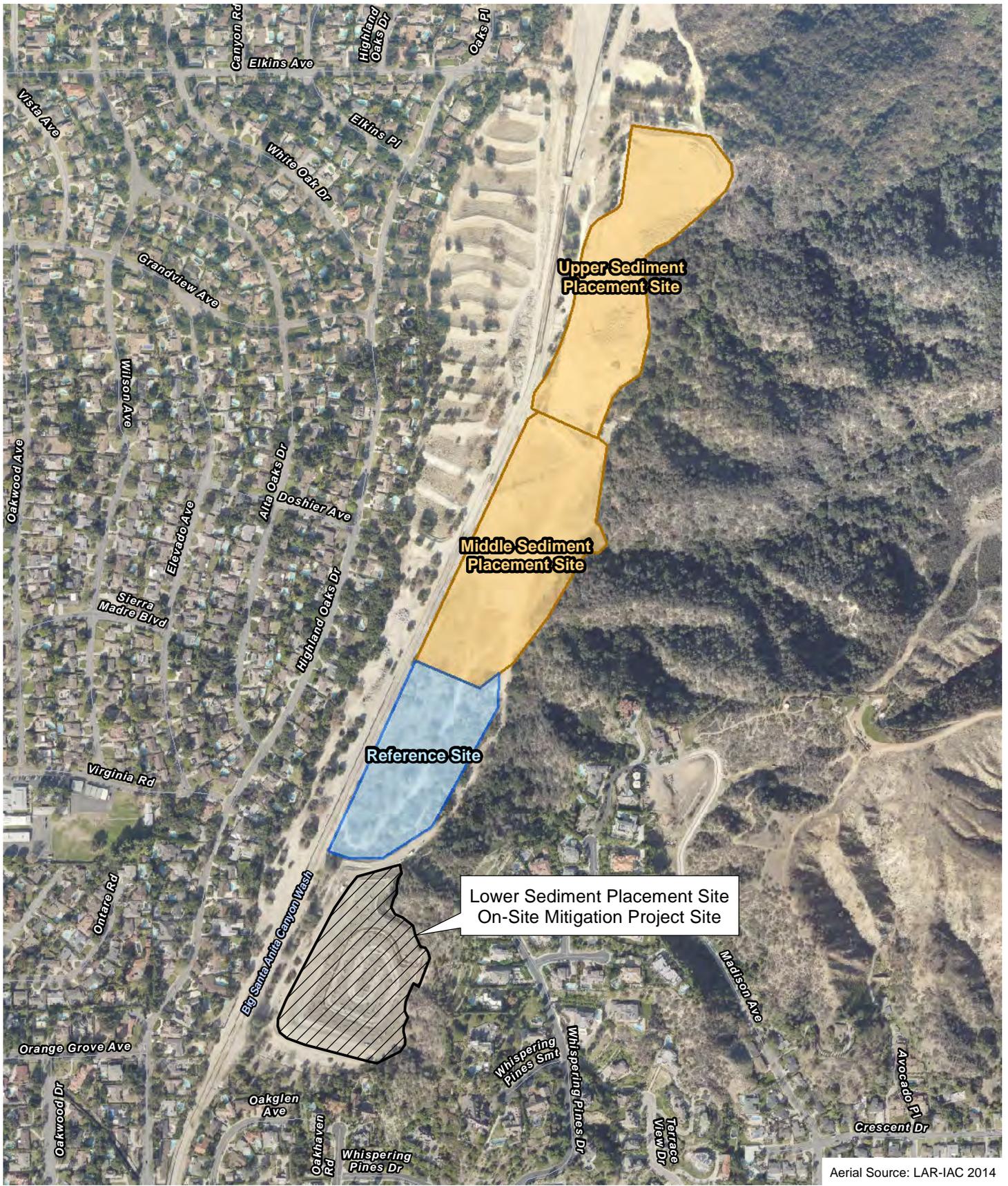
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### Project Vicinity

### Exhibit 1

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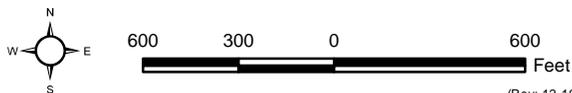


Aerial Source: LAR-IAC 2014

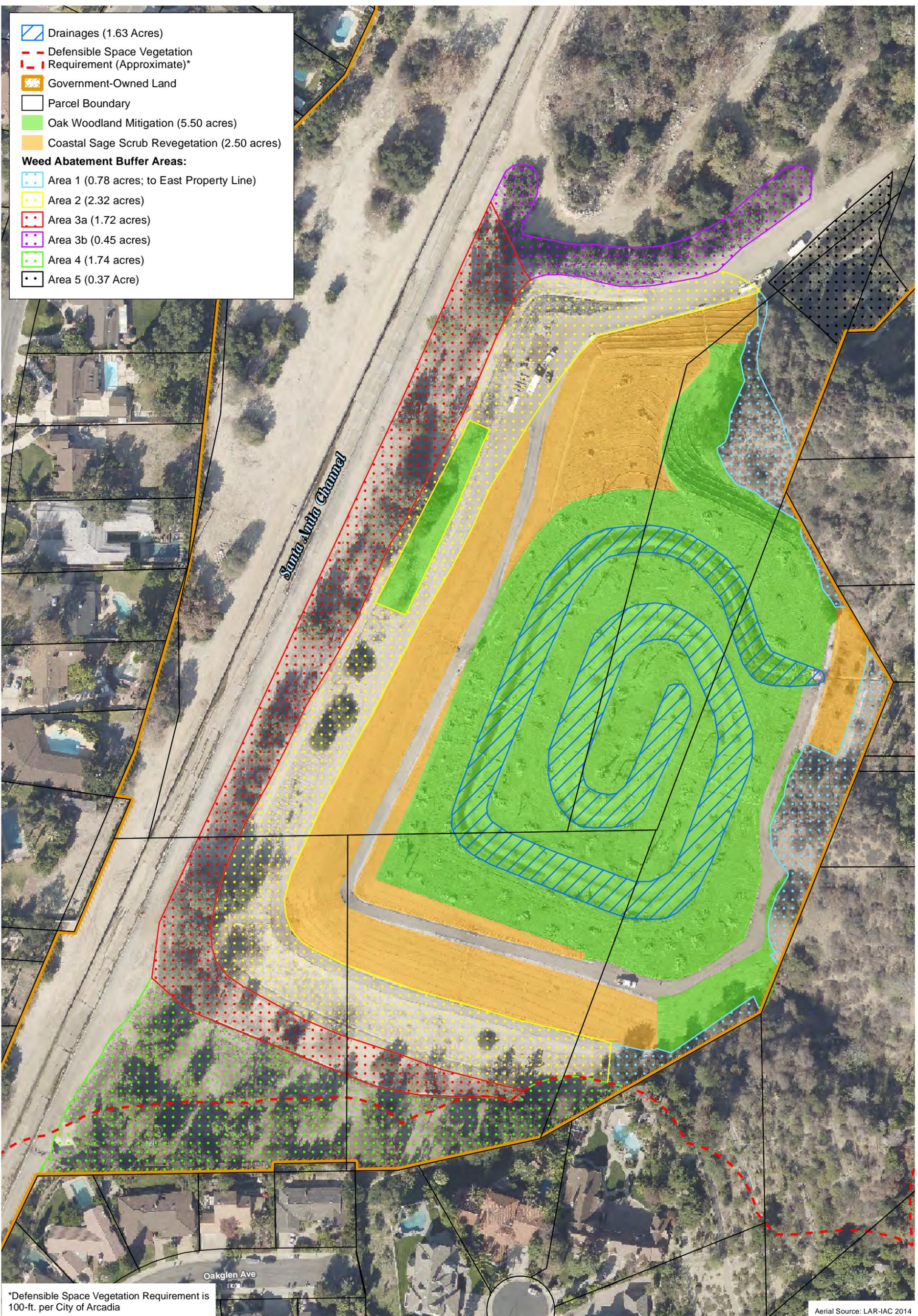
## Sediment Placement Site Locations

## Exhibit 2

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;  
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-  Drainages (1.63 Acres)
-  Defensible Space Vegetation Requirement (Approximate)\*
-  Government-Owned Land
-  Parcel Boundary
-  Oak Woodland Mitigation (5.50 acres)
-  Coastal Sage Scrub Revegetation (2.50 acres)
- Weed Abatement Buffer Areas:**
-  Area 1 (0.78 acres; to East Property Line)
-  Area 2 (2.32 acres)
-  Area 3a (1.72 acres)
-  Area 3b (0.45 acres)
-  Area 4 (1.74 acres)
-  Area 5 (0.37 Acre)



\*Defensible Space Vegetation Requirement is 100-ft. per City of Arcadia

Aerial Source: LAR-IAC 2014

**Mitigation Site Location (Lower Sediment Placement Site)**

**Exhibit 3**

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**ATTACHMENT A**  
**SITE PHOTOGRAPHS**



**August 2019.** A planted coast live oak sapling exhibits robust growth, amid native shrubs and perennials with normal/varying degrees of drought-dormancy. Acorn woodpeckers nested in the placed natural snags (background of photo) for multiple years since they were placed on the site in 2013.



**August 2019.** An Engelmann oak sapling is growing alongside placed coarse woody debris. There is an understory of multiple species of native perennial bunchgrasses and native broadleaf herbs.



**August 2019.** The canopies of the maturing planted oaks will eventually extend over the naturalistic, spiraling drainages that traverse the site. A diversity of planted/seeded riparian herbs occur within the drainages.



**August 2019.** There are abundant seeds on this California brickellbush--a native shrub that was established via seeding. In the background is a healthy planted coast live oak sapling.



**July 2019.** The coastal sage scrub mitigation site includes areas that were planted with spiniferous species (cactus and yucca) to improve vegetative diversity. The Restoration Contractor (Nakae & Associates, Inc.) regularly removes sediment and debris from the concrete drainages on the Lower Sediment Placement Site (SPS).



**August 2019.** Public Works recently initiated voluntary weed abatement in an additional area to the north of the Lower SPS, to reduce fire fuel and to eliminate a source of weed seeds adjacent to the mitigation site.

## Site Photographs

*Status Report: Oak Woodland Habitat Revegetation/Mitigation Program  
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## Attachment A

