

GENERAL BIOLOGICAL RESOURCES REPORT

**Chino Airport Groundwater
Remediation Project**

**Chino California
USGS Quad: Prado Dam, Corona North**

Prepared By:



San Bernardino County
Department of Public Works
Environmental Management Division
825 E 3rd Street,
San Bernardino CA 92415

Principal Author:

Brandy Wood,
Ecological Resource Specialist

Date: February 12, 2018
Revised: February 21, 2018

Contents

1.0	INTRODUCTION	1
2.0	PROJECT LOCATION.....	1
3.0	PROJECT DESCRIPTION.....	1
4.0	REGULATORY BACKGROUND	1
5.0	METHODS.....	4
6.0	RESULTS.....	5
7.0	RECOMMENDATIONS.....	8
8.0	LITERATURE CITED.....	10

LIST OF FIGURES

1. Vicinity Map
2. Project Location Map

APPENDICES

- Appendix A: Representative Site Photos
- Appendix B: List of Species Observed
- Appendix C: CNDDDB Results for the Prado Dam and Corona North Quad

1.0 INTRODUCTION

The County of San Bernardino Land Use Services Department requested that the Department of Public Works Environmental Management Division (EMD) prepare a general biological assessment of the Chino Airport Groundwater Remediation Project, proposed by the County of San Bernardino Department of Airports (Airports). The purpose of the project is to clean up groundwater contaminated by volatile organic compounds at and in the vicinity of the Chino Airport Property.

2.0 PROJECT LOCATION

The Chino Airport Groundwater Remediation Project consists of a network of groundwater extraction wells, groundwater treatment plants and appurtenant improvements. The proposed groundwater remediation improvements are generally spread through the southern half of the Chino city limits in San Bernardino County (Figure 1). Specifically, well clusters are proposed within the Chino Airport property, the California Department of Corrections and Rehabilitation Property, Orange County Flood Control District Property; and City of Chino public right of way on Kimball Avenue and Fern Avenue. Influent and effluent piping is proposed within Chino Airport property and City of Chino right-of-way on Euclid Avenue, Kimball Avenue and Fern Avenue.

3.0 PROJECT DESCRIPTION

The Chino Airport Groundwater Remediation Project includes the installation of a groundwater extraction and treatment system comprised of extraction wells, piping, and groundwater treatment plants (Figure 2).

Central staging for well drilling activities would occur at two locations within the Chino Airport property.

Development activities associated with each well cluster would temporarily disturb an approximately 1,600 square feet area for drilling activities and equipment staging; approximately 30 to 60 square feet would be permanently disturbed by the well cluster.

Installation of the pipe system for groundwater extraction and treatment system would impact an approximately 10 to 12 foot wide area for trenching equipment and personnel. Surface improvements would be restored to pre-project condition following trenching of the influent/effluent piping.

4.0 REGULATORY BACKGROUND

Special Interest Species

Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state or other agencies as deserving special consideration. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as “sensitive” by local governmental agencies such as counties, cities

and special districts based on adopted policies and expertise of resource agencies or organizations to meet local conservation objectives. These species are referred to collectively as “special-status species” in this report. For purposes of this analysis, the term “special-status” includes those species that are:

- Federally listed or proposed (candidate) under the Federal Endangered Species Act (FESA, 50 Code of Federal Regulations [CFR] 17.11-17.12);
- State listed or proposed (candidate) under the California Endangered Species Act (CESA, 14 CCR670.5);
- Fully protected animals, as defined by California Fish and Game Code (Section 3511, 4700, and 5050);
- Species and plant communities listed by the California Department of Fish and Wildlife (CDFW) as rare or of special concern;
- Species or plant communities that meet the definition of threatened, endangered, or rare under CEQA(Guidelines Section 15380 and Appendix G); and
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.),.

The potential for the project to impact a listed special status plant and animal species was evaluated based on:

- Direct observation of the species or its sign in the project area or immediate vicinity during site visit(s);
- Data from the Department Fish and Wildlife California Natural Diversity Data Base (CNDDDB) and Biogeographic Information and Observation System (BIOS), as well as, US Fish and Wildlife Service (USFWS) and California Native Plant Society species lists;
- Biological literature and professional expertise pertaining to the area;
- Known distributional range (CDFW) and/or critical habitat (USFWS) maps; and
- Suitable habitat (e.g. USFWS Primary Constitute Elements).

Finally, the potential for the project to impact a special status species was categorized within this report as follows:

- Unlikely: The project site and/or immediate area does not support suitable habitat for a particular species and the project site is outside the species’ known range.
- Low Potential: The project site and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside the project area.
- Medium Potential: The project site and/or immediate area provide suitable habitat for a particular species, and the proposed project may directly or indirectly affect suitable habitat, though no known populations would be affected.

- High Potential: The project site and/or immediate area provide ideal habitat conditions for a particular species and suitable habitat would be directly affected. Known populations may be affected.

Federally-Listed Threatened or Endangered species:

Federal Law Summary – Federal Endangered Species Act (FESA)

Under the FESA, species may be listed as either endangered or threatened. If listed as “endangered”, a species is believed to be in danger of extinction throughout all or a significant portion of its range, while “threatened” means a species is likely to become endangered within the foreseeable future. Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the FESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Finally, the FESA also requires the designation of “critical habitat” for listed species when “prudent and determinable.” Critical habitat includes geographic areas that contain the physical or biological features, also known as principle constituent elements (PCEs), which are essential to the conservation of the species and may need special management or protection.

State-listed Threatened or Endangered species:

State Law Summary – California Endangered Species Act (CESA)

This act establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. Under the CESA, the CDFW is responsible for permitting the “take” of state-listed species. “Take” means hunt, pursue, catch, capture, or kill, or attempts to hunt, pursue, catch, capture, or kill state-listed threatened or endangered species. In contrast with the FESA, the CESA does not recognize harm and harassment as “take”. If the project will “take” a state-listed species, an Incidental Take Permit (ITP) is required under Fish and Game Code Section 2080.1. In addition, there are no state agency consultation procedures under CESA. For projects that affect both a state and federal listed species, compliance with FESA would satisfy CESA if the CDFW determines that the federal incidental take authorization is consistent with CESA.

State Species of Special Concern – California Environmental Quality Act (Section 15380(d)):

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on federal or state lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria modeled after the definition in the FESA and CESA. CEQA Guidelines Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW

(i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

California Native Plant Society – Native Plant Protection Act:

California's Native Plant Protection Act (NPPA) requires all state agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of special-status plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. Project proponents are required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

5.0 METHODS

Literature Search

Prior to the field survey, a literature review was conducted to determine the existence or potential occurrence of sensitive plant and animal species on the proposed project site or in the vicinity. The literature review included an evaluation of current and historical aerial photographs of the site (ESRI 2018), as well as, regional and site-specific topographic maps (USGS 7.5-minute topo quadrangle).

The California Natural Diversity Database, Biogeographic Information and Observation System (CDFW 2018) and United States Fish and Wildlife Service Critical habitat portal and Information Planning and Conservation System (USFWS 2018) were reviewed, to determine if any special-status wildlife, plant or vegetation communities were previously recorded on-site. Other resources reviewed include the California Native Plant Society, CNPS Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2017). The project occurs within the Prado Dam and Corona North quadrangles, California.

Field Survey

A general biological field survey and burrowing owl habitat assessment were conducted on January 26, 2018 by EMD Ecological Resource Specialists, Brandy Wood and Michael Rathbun and on January 29, 2018 by Brandy Wood to assess the overall site conditions and to identify areas of potential value for biological resources. Areas of potential biological value are defined as locations that support a predominance of native plant species that could support special status species, areas of wetland or riparian habitat, and areas that could provide a habitat linkage or corridor for wildlife movement.

6.0 RESULTS

General Plants/Communities:

The project lies within an industrial developed area in the City of Chino. Four of the proposed extraction wells (EW-1, EW-2, EW-3 and EW-4) are located on the Chino Airport property on non-native grasslands and sod fields (Photos 1 and 2). Four of the proposed extraction well locations (EW-6, EW-7, EW-8 and EW-9) are within an industrial development (Photos 3 and 4). EW-6 is located within a landscaped portion of a stormwater detention basin, planted with deer grass (*Muhlenbergia rigens*), Alkali sacaton (*Sporobolus airoides*) and western red bud (*Cercis occidentalis*). EW-7 is within an area currently under construction and mostly barren with isolated tumble mustard (*Sisymbrium altissimum*) and Mexican fan palm (*Washingtonia robusta*) seedlings. EW-8 and EW-9 are within the landscaped area of an industrial development; the landscaping consists of commercially available vegetation including jacaranda (*Jacaranda* sp.) trees and Japanese pittosporum (*Pittosporum tobira*). EW-10 is located within a former borrow site owned by the Orange County Flood Control District (OCFCD). According to an OCFCD engineer, the site was designed to not retain or concentrate flows and is not considered jurisdictional, but allows water to sheet flow into the golf course. EW-10 is unvegetated and heavily disturbed (Photo 5).

With the exception of EW-4 to the existing on-site groundwater treatment system, EW-5 to the existing on-site groundwater treatment system, and EW-10 to Pine Avenue, the proposed effluent/influent pipe alignments are located within built up urban environments. The proposed influent piping alignment to EW-4, EW-5, and EW-10 are within non-native grasslands and sod fields.

Representative site photos are included in Appendix A. A list of observed species is included in Appendix B.

Federal and State Endangered and Threatened Species

The literature review revealed eight federally or state listed species potentially occurring within the project site. None of these listed species are anticipated to occur or be affected by the proposed project.

Special Status Species

The literature review revealed 44 special interest species known from Prado Dam and Corona North Quadrangles and therefore encompassing the project vicinity. Of these species, only one special status species, burrowing owl, has a potential to occur in the project area and be impacted by the proposed project.

Burrowing Owl

The burrowing owl is a California species of concern (CSC). Burrowing owls are yearlong residents of shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial and open areas (Haug et

al. 1993). They may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas and university campuses, fairgrounds, abandoned buildings, and irrigation ditches (Haug et al. 1993). This species requires large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. They primarily utilize modified rodent or other small mammal burrows for roosting and nesting cover. When burrows are scarce, they may use man-made structures, such as openings beneath cement or asphalt pavement, pipes, culvert, and nest boxes (Robertson 1929). One burrow is typically selected for use as the nest; however, satellite burrows are usually found in the immediate vicinity of the nest burrow within the defended territory of the owl. Breeding occurs from March through August, with peak periods in May and July. The most important threats to this species include loss of habitat, reduced burrow availability due to rodent control, and habitat pesticides (James and Espie 1997).

Burrowing owl was observed during the field surveys in the vicinity of proposed well site EW-4, and the influent piping alignment from EW-4 to the existing groundwater treatment basin. Additionally, suitable habitat and sign of burrowing owl exists within the project area and/or immediate vicinity at proposed well sites EW-1, EW-2, EW-3 and EW-10. The proposed influent piping alignment to EW-5 and EW-10 are also located within suitable habitat for burrowing owl.

A burrowing owl assessment was completed at each extraction well site and groundwater treatment basin. Results are summarized in Table 1 below.

Table 1
Habitat Assessment for Burrowing Owl for Extraction Wells,
Treatment Basins along with the Influent Pipeline

	Extraction Well With Influent Piping Location	Habitat	Burrowing Owl Potential
EW-1	Along Euclid Avenue	Non-native grassland	High Potential. Many ground squirrel burrows observed in the area. Burrows with white wash were observed.
EW-2	Along Euclid Avenue	Non-native grassland	High Potential. Many ground squirrel burrows observed in the area. Burrows with white were observed.
EW-3	NW intersection of Euclid and Kimball	Sod farm bioswale	Medium Potential – The site is located within a swale with few suitable burrows and foraging habitat
EW-4	Within runways of Chino Airport	Non-native grassland	High Potential. Presence was observed. The species occupies burrows in this area.
EW-5	Within Chino Airport hanger	Asphalt	Unlikely
EW-6	Along Kimball within development SWPP basin	Landscaped native grasses.	Unlikely

EW-7	Along Kimball Avenue adjacent to development construction site	Highly disturbed, non-native vegetation	Unlikely
EW-8	Along Fern	Within industrial development landscaping	Unlikely
EW-9	Along Fern	Within industrial development landscaping	Unlikely
EW-10	South of Pine Avenue	Within Orange County Flood Control District property – former borrow site	Medium Potential– The site is highly disturbed; however, there were suitable burrows in the adjacent power line corridor.
Existing Treatment Basin	Along Euclid	Non-native grassland	High Potential. Many ground squirrel burrows observed in the area.
Potential Alternate Treatment Basin	South side of Kimball	Within industrial development	Unlikely

Recommendations are proposed in Section 6 below to address and minimize project impacts to this species. Appendix C lists all 44 special interest species and their probability of occurrence.

Wildlife Movement Corridor

Wildlife movement includes seasonal movement along migration corridors, as well as daily movements for foraging. It may also include movement of large mammals, riparian corridors providing cover for migrating birds, routes between breeding waters and upland habitat for amphibians and between roosting and feeding areas for birds.

The project area is predominantly urban and/or largely restricted by the urban interface. The project would not impact wildlife movement.

Adopted Habitat Conservation Plans

The proposed project area does not lie within a draft or adopted HCP area.

Cumulative Effects

Cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects (Section 15130 of the CEQA Guidelines, State of California 2007). The proposed project is contained within existing developed, disturbed areas and with the implementation of proposed minimization measures its impacts are not considered cumulatively significant.

7.0 RECOMMENDATIONS

1 – Nesting Bird Pre-Construction Surveys

To avoid impacts to any nesting migratory birds, we recommend project related activities be conducted outside of bird nesting season (typically February 1 through August 31). The exact time of year when species nest can vary greatly between members of the same species in the same geographic area; external factors, such as rainfall, temperature, and water levels may influence time of nesting from year to year. If construction is scheduled during nesting season, pre-construction nest survey(s) are recommended to ensure that impacts to any nesting birds are avoided. The last survey day is to be conducted within three days prior to start of work. If the pre-construction nest surveys are negative, construction can take place during nesting season.

2 – Burrowing Owl Pre-Construction Surveys

In order to avoid and/or minimize potential impacts to burrowing owl, a preconstruction burrowing owl survey is recommended prior to the start of project ground disturbing activities at well sites, EW-1, EW-2, EW-3, EW-4, and EW-10 as well as the influent pipeline alignment to EW-5 and EW-10. The survey should be completed within thirty days prior to the start of work. If active burrowing owl burrows are found, project activities should be monitored by a qualified biologist in order to avoid and/or minimize potential impacts to the species. The monitoring biologist may implement procedures identified within the CDFW 2012 Staff Report on Burrowing Owl Mitigation to ensure protection of the burrowing owl. If the burrowing owl pre-construction surveys are negative, no further avoidance and/or minimization actions are recommended.

3 – Burrowing Owl Avoidance Measures

If the burrowing owl pre-construction survey is positive and the qualified biologist determines that owls and their habitat can be protected in place on or adjacent to a project site, it is recommended that buffer zones, visual screens or other measures be implemented while project activities are occurring to minimize disturbance impacts. Scobie and Faminow (2000) developed guidelines for activities around occupied burrowing owl nests recommending buffers around low, medium, and high disturbance activities, respectively (Table 2). Based on site conditions avoidance measures should be implemented at the direction of the biological monitor to ensure impacts to burrowing owl are avoided.

Table 2
Recommended restricted activity dates and setback distances
by level of disturbance for burrowing owls

		Level of Disturbance		
		Low	Med	High
Nesting sites	April 1 – Aug 15	200 meter	500 meter	500 meter
Nesting sites	Aug 16 – Oct 15	200 meter	200 meter	500 meter
Nesting sites	Oct 16 – Mar 31	50 meter	100 meter	500 meter

Source: (Scobie and Faminow 2000)

4 – Burrowing Owl Relocation Measures (if applicable)

If the pre-construction survey is positive and the qualified biologist determines that project construction will directly impact an owl burrow, the biologist should draft and implement a relocation/exclusion plan following the recommendations within the CDFW 2012 Staff Report on Burrowing Owl Mitigation.

8.0 LITERATURE CITED

ESRI 2018. ArcGIS Online. Redlands, CA: Environmental Systems Research Institute.

California Department of Fish and Wildlife. 2018. California Natural Diversity Database, Biogeographic Data Branch.

California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency.

California Native Plant Society. 2018. Inventory of Rare and Endangered Vascular Plants of California (on-line).

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing owl (*Speotyto cunicularia*), in A. Poole and F. Gill, editors, *The Birds of North America*, The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C., USA.

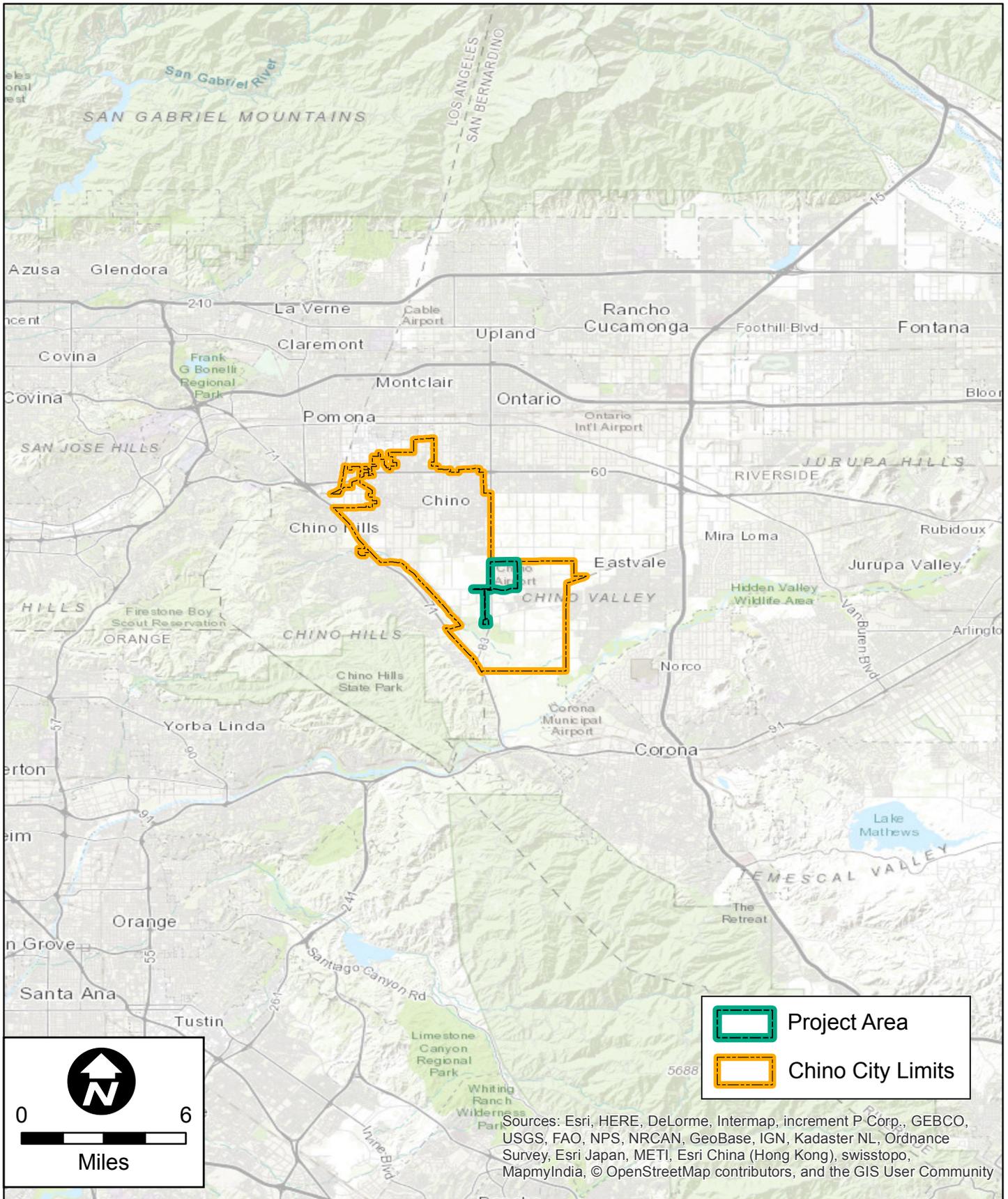
Hickman, J. Editor 1993. *The Jepson Manual. Higher Plants of California*. University of California Press. Berkeley and Los Angeles, CA.

James, P. C., and R. H. M. Espie. 1997. Current status of the Burrowing Owl in North America: an agency survey. Pages 3-5 in J. Lincer and K. Steenhof, editors. *The Burrowing Owl, its biology and management including the Proceedings of the First International Burrowing Owl Symposium*. Raptor Research Report Number 9.

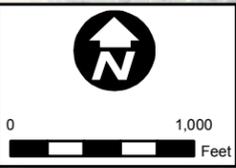
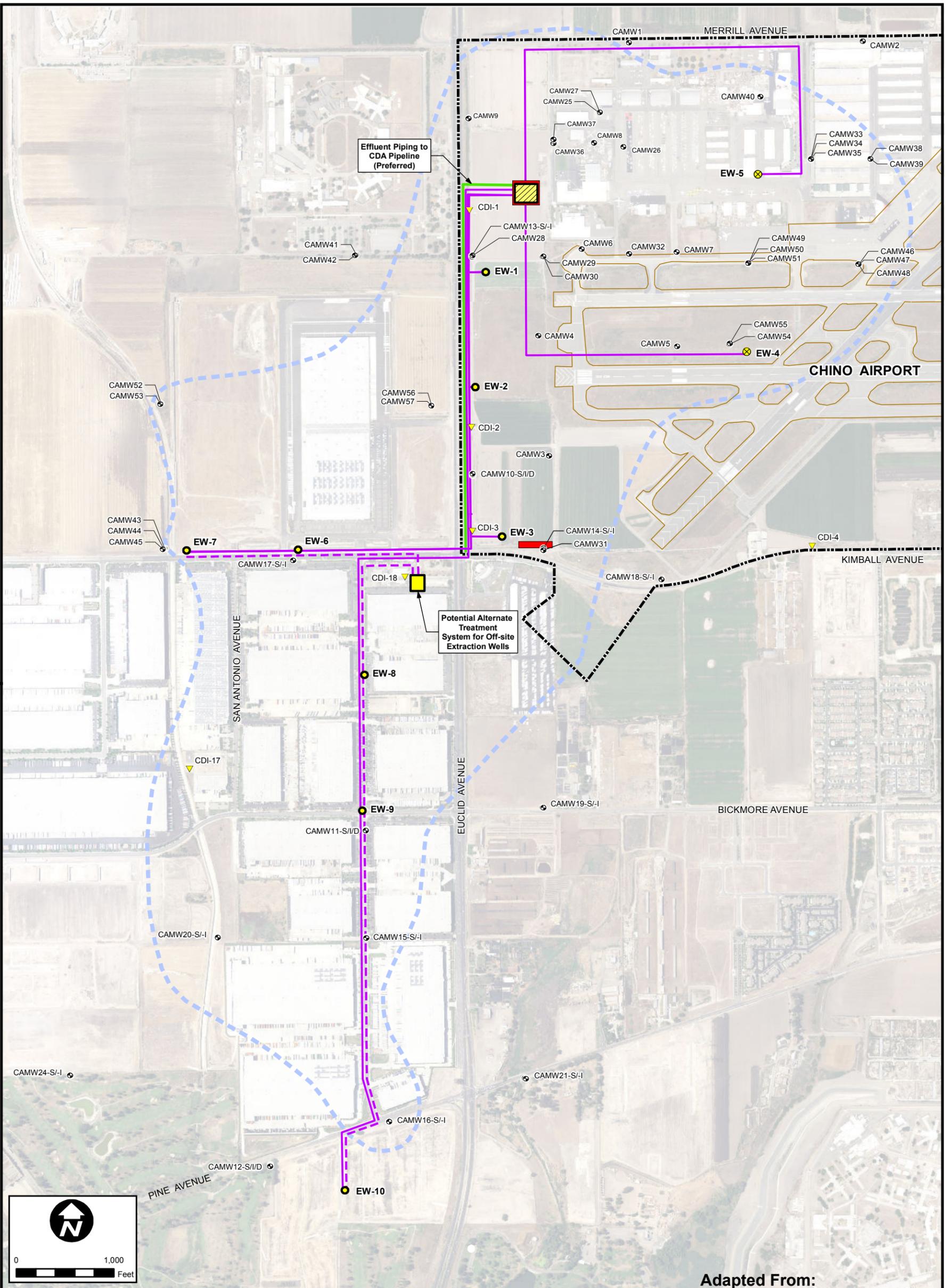
Sawyer, J.O., T. Keeler-Wolf, J.M. Evens. 2008. *A Manual of California vegetation*, second edition. California Native Plant Society Press, Sacramento.

Scobie, D., and C. Faminow. 2000. Development of standardized guidelines for petroleum industry activities that affect COSEWIC Prairie and Northern Region vertebrate species at risk. Environment Canada, Prairie and Northern Region, Edmonton, Alberta, Canada.

FIGURES



VICINITY MAP
 Chino Airport Groundwater Remediation
 Chino, California
 Figure 1



Adapted From:

CHINO AIRPORT

Figure ES-4

**Proposed Remedial Action-
West Plume Containment
and East Plume Containment
by Groundwater Extraction and
Ex Situ Treatment**



December 2017

<ul style="list-style-type: none"> ● West Plume Groundwater Extraction Well ○ East Plume Groundwater Extraction Well ▼ Chino Desalter Authority (CDA) Extraction Well ○ Groundwater Monitoring Well Location 	<ul style="list-style-type: none"> — Influent Piping to Groundwater Treatment System — Effluent Piping from Groundwater Treatment System to On-site CDA Collection Header - - - Potential Alternate Routing of Off-site Extraction Well Piping ▨ On-site Groundwater Treatment System 	<ul style="list-style-type: none"> ▨ Potential Alternate Groundwater Treatment System for Off-site Wells - - - Chino Airport Boundary ⋯ Areal Extent of Volatile Organic Compound Plumes in Groundwater Targeted for Active Remediation ■ Central Staging Area
--	---	--



PROJECT LOCATION MAP

Chino Airport Groundwater Remediation

Chino, California

Figure 2

APPENDIX A

Representative Site Photos



Photo 1: Non-native grasses/sod fields at the Chino Airport. Representative of extraction wells 1, 2, 3, and 4.



Photo 2: Non-native grasses/sod fields in the background and access roads in the foreground at the Chino Airport. Representative of extraction wells 1, 2, 3, and 4.



APPENDIX A: Representative Site Photos



Photo 3: Landscaped areas in the industrially developed area. Representative of extraction wells 6, 7, 8 and 9.



Photo 4: View of the built up urban area. Representative of extraction wells 6, 7, 8 and 9.



APPENDIX A: Representative Site Photos



Photo 5: Unvegetated basin where EW-10 is proposed.



APPENDIX A: Representative Site Photos

APPENDIX B

List of Species Observed

Appendix B: List of Species Observed

Scientific Name	Common Name
Reptiles	
<i>Uta stansburiana</i>	Side-Blotched Lizard
Birds	
Hawks, Old World Vultures & Harriers	
<i>Buteo jamaicensis</i>	Red-Tailed Hawk
<i>Falco sparverius</i>	American Kestrel
Sandpipers & Relatives	
<i>Gallinago gallinago</i>	Common Snipe
Pigeons & Doves	
<i>Columba livia</i>	Rock Pigeon
Owls	
<i>Athene cunicularia</i>	Burrowing Owl
Swifts	
<i>Aeronautes saxatalis</i>	White-throated Swift
Hummingbirds	
<i>Calypte anna</i>	Anna's Hummingbird
Tyrant flycatchers	
<i>Sayornis nigricans</i>	Black Phoebe
<i>Sayornis saya</i>	Say's Phoebe
Jays, Magpies & Crows	
<i>Corvus corax</i>	Common Raven
Seed-eating Passerines	
<i>Passerculus sandwichensis</i>	Savannah Sparrow
Finches & Allies	
<i>Haemorhous mexicanus</i>	House Finch
Old World Sparrows	
<i>Passer domesticus</i>	House Sparrow
MAMMALS	
Squirrels, Chipmunks & Marmots	
<i>Spermophilus beecheyi</i>	California Ground Squirrel
Pocket Gophers	
<i>Thomomys bottae</i>	Botta's Pocket Gopher
PLANTS	
Amaranthaceae - Amaranth Family	
<i>Amaranthus albus</i>	Tumbling pigweed
Asteraceae - Aster Family	
<i>Ambrosia acanthicarpa</i>	Annual bursage
<i>Baccharis salicifolia</i>	Mulefat
<i>Erigeron canadensis</i>	Horseweed
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Lactuca serriola</i>	Prickly lettuce
<i>Verbesina encelioides</i>	Golden crownbeard
Bignoniaceae - Jacaranda Family	
<i>Jacaranda mimosifolia</i>	Jacaranda
Brassicaceae - Mustard Family	

<i>Sisymbrium irio</i>	London rocket
Chenopodiaceae - Goosefoot Family	
<i>Salsola tragus</i>	Russian thistle
Solanaceae - Nightshade Family	
<i>Datura wrightii</i>	Jimsonweed
<i>Nicotiana glauca</i>	Tree tobacco
Urticaceae - Nettle Family	
<i>Urtica urens</i>	Annual stinging nettle
Poaceae - Grass Family	
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus madritensis</i>	Red brome
<i>Cynodon dactylon</i>	Bermuda grass
<i>Festuca perennis</i>	Italian rye grass
<i>Muhlenbergia rigens (landscaped)</i>	Deergrass
<i>Stipa miliacea var. miliacea</i>	Smilo grass

APPENDIX C

CNDDDB Results for the Prado Dam and Corona
North Quad

Appendix C: CNDDDB Results for the Prado Dam and Corona North Quad

CNDDDB Report Date: February 2018

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
Plants				
Chaparral sand-verbena	<i>Abronia villosa var. aurita</i>	Occurs in sandy soils in chaparral communities	Fed: None CA: None CNPS: 1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat.
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	Occurs in recently burned or disturbed soils usually on sandstone with carbonate layers.	Fed: E CA: None CNPS: 1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat.
Coulter's saltbush	<i>Atriplex coulteri</i>	Occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland	Fed: None CA: None CNPS: 1B.2	Unlikely: The project site and/or immediate area does not support suitable habitat.
Intermediate mariposa-lily	<i>Calochortus weedii var. intermedius</i>	Occurs in coastal scrub, chaparral, valley and foothill grassland, cismontane and lower montane woodland. Rocky, sandy sites, usually alluvial material, can be common after fire.	Fed: None CA: None CNPS: 1B.2	Low: There is suitable habitat onsite, however Chino airport maintenance of runways and surrounding grasslands eliminate potential establishment.
Lucky morning glory	<i>Calystegia felix</i>	Occurs in meadows, seeps and riparian scrub.	Fed: None CA: None CNPS:1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat.
Smooth tarplant	<i>Centromadia pungens ssp. laevis</i>	Occurs in valley and foothill grasslands, scrub, meadows, playas riparian woodlands particularly alkali soils and disturbed areas.	Fed: None CA: None CNPS:1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat
Many-stemmed dudleya	<i>Dudleya multicaulis</i>	Occurs in heavy, often clayey soils or grassy slopes	Fed: None CA: None CNPS:1B.2	Unlikely: The project site and/or immediate area does not support suitable habitat

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
Santa Ana woollystar	<i>Eriastrum densifolium sanctorum</i>	Occurs in sandy soils on river floodplains or terraced fluvial deposits	Fed: E CA: E CNPS: 1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat.
Robinson's pepper-grass	<i>Lepidium virginicum var. robinsonii</i>	Occurs in chaparral and coastal scrub on dry soils.	Fed: None CA: None CNPS:4.3	Unlikely: The project site and/or immediate area does not support suitable habitat.
Jokerst's monardella	<i>Monardella australis ssp. jokerstii</i>	Occurs in lower montane coniferous forest, chaparral	Fed: None CA: None CNPS:1B.1	Unlikely: The project site and/or immediate area does not support suitable habitat.
White rabbit-tobacco	<i>Pseudognaphalium leucocephalum</i>	Occurs in riparian woodland, cismontane woodland, coastal scrub and chaparral in sandy, gravelly soils.	Fed: None CA: None CNPS: 2B.2	Unlikely: The project site and/or immediate area does not support suitable habitat.
Salt spring checkerbloom	<i>Sidalcea neomexicana</i>	Occurs in alkali springs and marshes	Fed: None CA: None CNPS:2B.2	Unlikely: The project site and/or immediate area does not support suitable habitat.
San Bernardino aster	<i>Symphyotrichum defoliatum</i>	Vernally mesic grassland or near ditches, streams and springs, disturbed areas.	Fed: None CA: None CNPS: 1B.2	Unlikely: The project site and/or immediate area does not support suitable habitat.
Fish				
Santa Ana sucker	<i>Catostomus santaanae</i>	Aquatic species, prefers sand-rubble-boulder bottoms, cool, clear water and algae.	Fed: T CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Arroyo chub	<i>Gila orcuttii</i>	Aquatic species prefers slow water stream sections with mud or sand bottoms.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Reptiles				

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
Orange-throat whiptail	<i>Aspidoscelis hyperythra</i>	Coastal scrub, chaparral and valley foothills. In particular washes and sandy areas with patches of brush and rocks.	Fed: None CA: CSC	Low: There is suitable habitat onsite.
San Diego banded gecko	<i>Coleonyx variegatus abbotti</i>	Occurs in granite or rocky outcrops in coastal scrub and chaparral habitats	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Red-diamond rattlesnake	<i>Crotalus ruber</i>	Chaparral, woodland, grassland and desert areas.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Western pond turtle	<i>Emys marmorata</i>	An aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation below 6000 ft. elevation.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Northern leopard frog	<i>Lithobates pipiens</i>	Aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Coast horned lizard	<i>Phrynosoma blainvillii</i>	Occurs in lowlands along sandy washes with scattered low bushes	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Birds				
Cooper's hawk	<i>Accipiter cooperii</i>	Nest sites mainly in riparian growths of deciduous trees, canyon bottoms and river flood plains and coast live oak	Fed: None CA: CSC	Low: There is suitable foraging habitat onsite. There is no nesting habitat within the project site.
Tricolored blackbird	<i>Agelaius tricolor</i>	Requires open water, protected nesting substrate, and foraging area with insect prey. Freshwater Marsh, wetland.	Fed: None CA: Candidate Endangered	Unlikely: The project site and/or immediate area does not support suitable habitat.
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	Southern California coastal sage and sparse mixed chaparral	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Valley and foothill grassland	Fed: None CA: CSC	Low: There is suitable foraging habitat onsite.
Bell's sage sparrow	<i>Artemisiospiza belli belli</i>	Nests in chaparral dominated by dense stands of chamise.	Fed: None CA: None	Unlikely: The project site and/or immediate area does not support suitable habitat.
Golden Eagle	<i>Aquila chrysaetos</i>	Occurs in upland forests, cismontane woodland, and coastal prairie. Cliff-walled canyons provide nesting habitat.	Fed: None CA: FP	Low: There is suitable foraging habitat onsite. There is no nesting habitat within the project site.
Long-eared owl	<i>Asio otus</i>	Occurs in riparian bottomlands grown to tall willows and cottonwoods.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Burrowing owl	<i>Athene cunicularia</i>	Occurs in open, annual or perennial grasslands, desert and scrublands	Fed: None CA: CSC	Present: There is suitable habitat onsite.
Swainson's hawk	<i>Buteo swainsoni</i>	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs and agricultural groves	Fed: None CA: T	Unlikely: The project site and/or immediate area does not support suitable habitat.
Coastal Cactus wren	<i>Camplorhynchus brunneicapillus sandiegensis</i>	Occurs in Southern California coastal sage scrub.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Nests in riparian forest of willows often mixed with cottonwoods with lower story of blackberry, nettles or wild grape.	Fed: T CA: E	Unlikely: The project site and/or immediate area does not support suitable habitat.
Yellow rail	<i>Coturnicops noveboracensis</i>	Occurs in Freshwater marsh, meadows and seeps	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
White-tailed kite	<i>Elanus leucurus</i>	Occurs in open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching	Fed: None CA: CSC	Low: There is suitable foraging habitat onsite. There is no nesting habitat within the project site.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Occurs in riparian woodlands	Fed: E CA: E	Unlikely: The project site and/or immediate area does not support suitable habitat.
Yellow-breasted chat	<i>Icteria virens</i>	Summer resident inhabits riparian thickets of willow and other brushy tangles near watercourses.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	Inhabitants freshwater marshes	Fed: None CA: T	Unlikely: The project site and/or immediate area does not support suitable habitat.
Coastal California gnatcatcher	<i>Polioptila californica californica</i>	Obligate, permanent resident of coastal sage scrub	Fed: T CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Yellow warbler	<i>Setophaga petechia</i>	Associated with riparian vegetation. Nests and forages in willow shrubs and thickets.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Nests in low riparian near water or in dry river bottoms.	Fed: E CA: E	Unlikely: The project site and/or immediate area does not support suitable habitat.
Mammals				
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	Occurs primarily in annual and perennial grasslands but also in coastal scrub and sagebrush with a sparse canopy cover.	Fed: E CA: T	Unlikely: The project site and/or immediate area does not support suitable habitat.
Western mastiff bat	<i>Eumops perotis californicus</i>	Occurs in many open, semi-arid to arid habitats, including conifer, deciduous woodlands, coastal scrub, grasslands, and chaparral	Fed: None CA: CSC	Low: There is not suitable habitat onsite; however, there are occupied areas nearby.

Common Name	Scientific Name	Habitat	Status	Occurrence Probability
Western yellow bat	<i>Lasiurus xanthinus</i>	Found in valley foothill riparian, desert riparian, desert wash and palm oasis habitats. Roosts in trees, particularly palms.	Fed: None CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	Occurs in a variety of habitats in Southern California including pine-juniper woodlands, desert scrub, palm oasis, desert wash and desert riparian	Fed: none CA: CSC	Unlikely: The project site and/or immediate area does not support suitable habitat.



Interoffice Memo

DATE: April 4, 2018

PHONE: 387-8109

FROM: **BRANDY WOOD**, Ecological Resource Specialist
Environmental Management Division

BW

MAIL CODE: 0835

TO: **LINDA MAWBY**, Senior Planner
Land Use Services Department

File: WO H14935

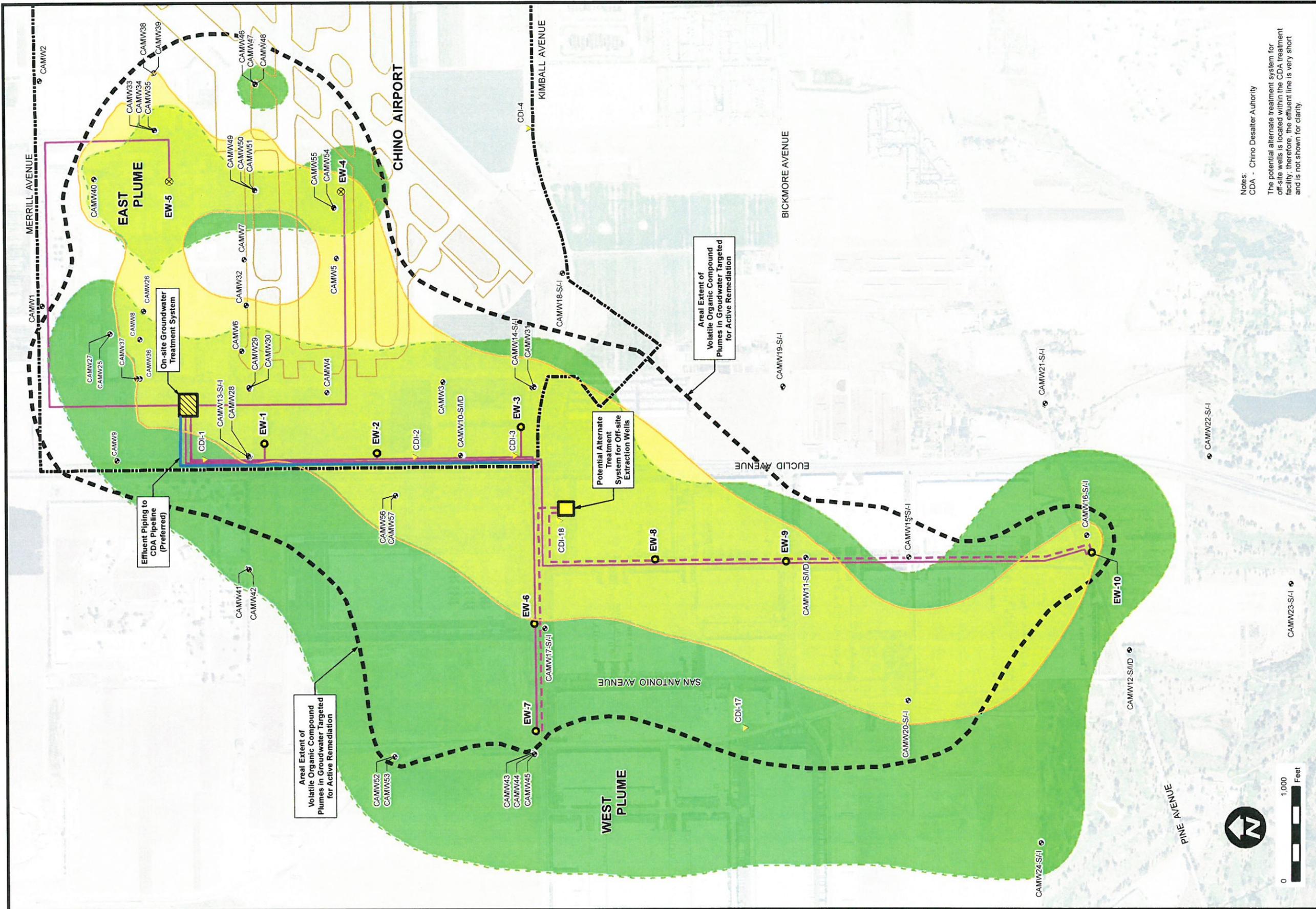
SUBJECT: CHINO AIRPORT GROUNDWATER REMEDIATION PROJECT - PROPOSED RELOCATION OF EXTRACTION WELL - 10

The Chino Airport Groundwater Remediation Project consists of a network of groundwater extraction wells, groundwater treatment plants and appurtenant improvements. The proposed groundwater remediation improvements are generally spread through the southern half of the Chino city limits in San Bernardino County.

Within the project's Biological Resources Report, the location of Extraction Well 10 (EW10) was identified to be placed on Orange County Flood Control District property south of the intersection on Pine and Fern Avenue. Due to right-of-way commitments, the proposed location of EW10 may be relocated to within the developed right-of-way of Pine Avenue, refer to Attachment 1. There are no additional biological concerns not addressed within the biological resources report regarding the relocation of EW10. Mitigation Measure BIO-1, regarding nesting bird surveys would apply to the newly proposed location of EW10. Mitigation Measure BIO-2, BIO-3 and BIO-4 regarding preconstruction burrowing owl surveys would not apply to the newly proposed location of EW10.

Should you need further information or have any questions, please contact Brandy Wood at 909-387-7971.

BW:sr



<p>CHINO AIRPORT</p> <p>Figure 3 Locations of East and West Plumes and Monitoring Well System as of June 2017</p>		<p>January 2018</p> <p>TETRA TECH</p>
<ul style="list-style-type: none"> ● West Plume Groundwater Extraction Well ⊗ East Plume Groundwater Extraction Well ▲ Chino Desalter Authority (CDA) Extraction Well ● Groundwater Monitoring Well Location 	<ul style="list-style-type: none"> — Influent Piping to Groundwater Treatment System — Effluent Piping from Groundwater Treatment System to On-site CDA Collection Header — Potential Alternate Routing of Off-site Extraction Well Piping 	<ul style="list-style-type: none"> ■ Potential Alternate Groundwater Treatment System for Off-site Wells ■ Trichloroethene (TCE) ■ 1,2,3-Trichloropropane (1,2,3-TCP) ■ Combination Areas of TCE and 1,2,3-TCP — Chino Airport Boundary