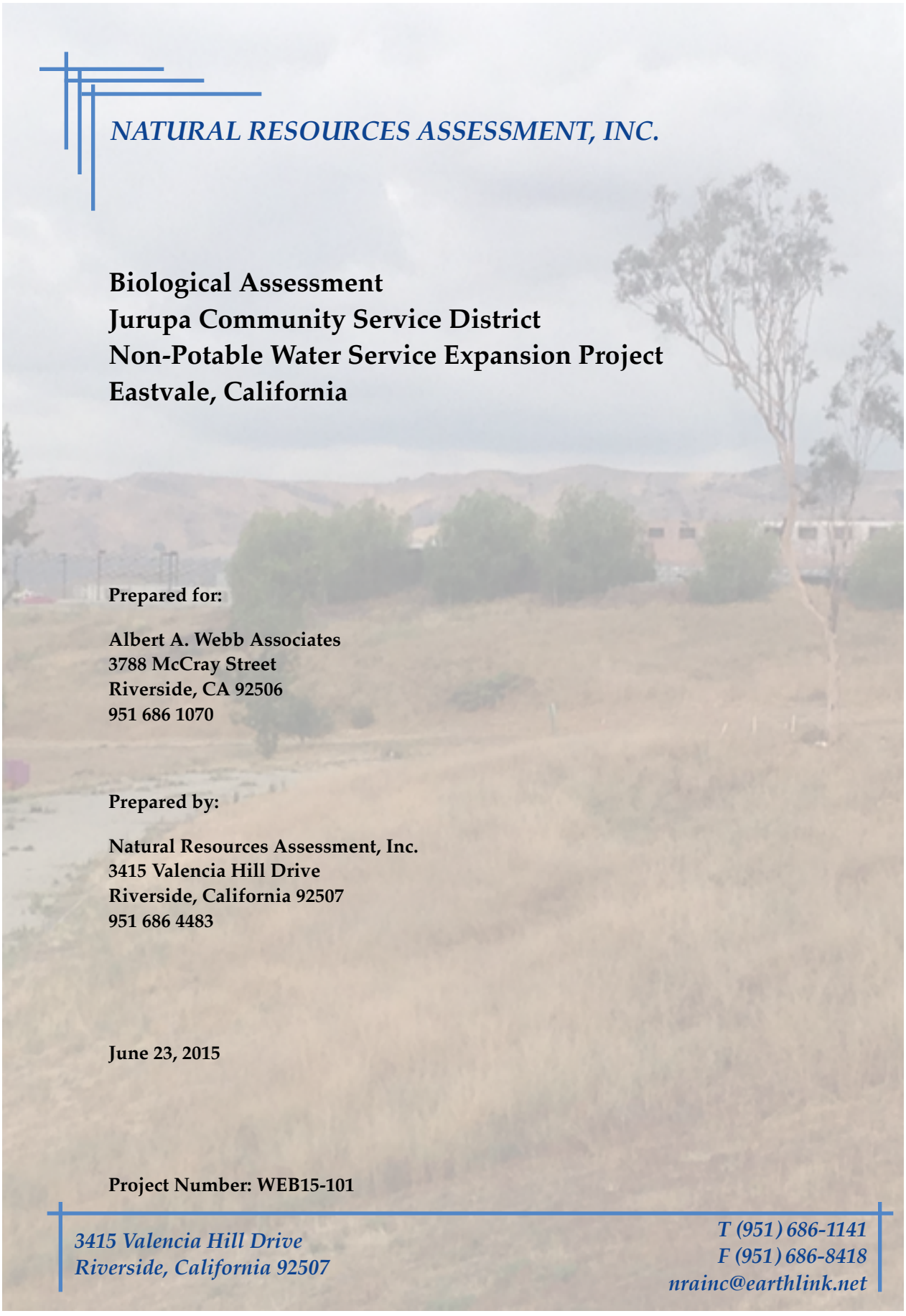


NATURAL RESOURCES ASSESSMENT, INC.

Biological Assessment
Jurupa Community Service District
Non-Potable Water Service Expansion Project
Eastvale, California

Prepared for:

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CERTIFICATION

I hereby certify that the statements furnished below and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

K. Kirtland

Karen Kirtland
Natural Resources Assessment, Inc.

June 23, 2015
Date

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Executive Summary

Natural Resources Assessment, Inc. (NRAI) was contracted by Albert A. Webb Associates on behalf of the Jurupa Community Services District to conduct focused biological assessment for resources identified in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) for the non-potable water project, prepare a report on the findings and identify project compliance with the provisions of the MSHCP.

The various routes of the proposed non-potable water lines follow two major street patterns: main arteries such as Etiwanda, Hamner and Archibald Avenues, and smaller residential streets such as Norfolk and Soleil Drives.

There is also a proposed clear well at the southwestern corner of the project area to be located at the existing Western Riverside County Regional Water Authority Treatment Plant, and a proposed non-potable water storage and booster pump station that will be located north of the project along Carpenter Avenue or Schaefer Avenue in the City of Ontario

No suitable habitat exists for the San Miguel savory, Brand's phacelia, San Diego ambrosia or Delhi sands flower-loving fly.

Marginally suitable habitat exists for the burrowing owl alongside some of the dirt roads and at the western parcel for the proposed non-potable water storage and booster pump station. NRAI recommends a Take Avoidance survey no less than 14 days prior to initiating ground activities. The survey should follow using the recommended methods described in the burrowing owl staff report prepared by the CDFW.

Sections of the alignments will cross Day Creek Channel and Cucamonga Creek Channel, both of which would be considered jurisdictional waters. NRAI recommends that construction in this channels be constructed completely underground to avoid disturbance to habitat and jurisdictional waters.Because of the ongoing human activity and noise levels within most of the alignment area, these impacts are not expected to be significant.

Amec Foster Wheeler identified potential nesting bird habitat in trees along Carpenter Avenue and on the non-potable water storage and booster pump station site (two locations). Based on their review, NRAI recommends that the project proponent will need to meet the requirements identified in this report, as well as any additional conditions placed on the development, to avoid and minimize impacts to these resources.

There are no impacts to protected corridors or other sensitive habitats designated under the MSHCP.

1.0 Introduction

Natural Resources Assessment, Inc. (NRAI) was contracted by Albert A. Webb Associates to conduct a biological assessment for the proposed Jurupa Community Services District (JCSD) Non-Potable Water Service Expansion Project in Eastvale, California.

The purpose of the biological assessment was to address potential impacts to sensitive resources identified by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), Santa Ana Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW).

The MSHCP also requires surveys for the presence of Riparian/Riverine Areas/Vernal Pools, as well as fairy shrimp, and the preparation of a Determination of Biological Equivalent or Superior Preservation report if these sensitive habitats are identified and will be impacted.

Although not specifically stated in the MSHCP, other resources requiring survey are waters that may be jurisdictional under the CDFW , Corps, and RWQCB regulations.

2.0 Site Location and Project Description

The various routes of the proposed non-potable water lines follow two major street patterns: main arteries such as Etiwanda, Hamner and Archibald Avenues, and smaller residential streets such as Norfolk and Soleil Drives (Figures 1 and 2).

There is also a proposed clear well at the southwestern corner of the project area to be located at the existing Western Riverside County Regional Water Authority Treatment Plant (Figures 1 and 2), and two locations for a proposed non-potable water storage and booster pump station located along Carpenter Avenue and Schaefer Avenue (Figures 1 and 2). The first is a 56-acre area northwest of the intersection of Schaefer Avenue and Vineyard Avenue, hereafter referred to as the western parcel. The second area is a 40-acre property located southeast of the intersection of Schaefer Avenue and Carpenter Street. A proposed pipeline connects to the station sites. The exact locations of the site will be at one of these two sites and will be determined at a later time.

The majority of the pipelines will run along existing paved roadways and other disturbed areas. There are a few locations where the pipeline route will cross through relatively undisturbed habitats that could support sensitive biological resources.

The non-potable pipelines will be located in the cities of Eastvale, Jurupa Valley, and Ontario. The clear well is in the City of Eastvale (Figure 3). The non-potable water storage and booster pump station sites are in the City of Ontario.

The work is part of an overall master plan intended to increase the available non-potable water capacity for the Eastvale area, and to provide additional conveyance. The facilities will be constructed and maintained by the JCSD.

3.0 Methods

3.1 Data Review

NRAI conducted a data review to provide information on sensitive species within the vicinity of the project. This review included biological texts on small mammal species, as well as general texts and other documents addressing habitat requirements and similar information. NRAI also reviewed other available

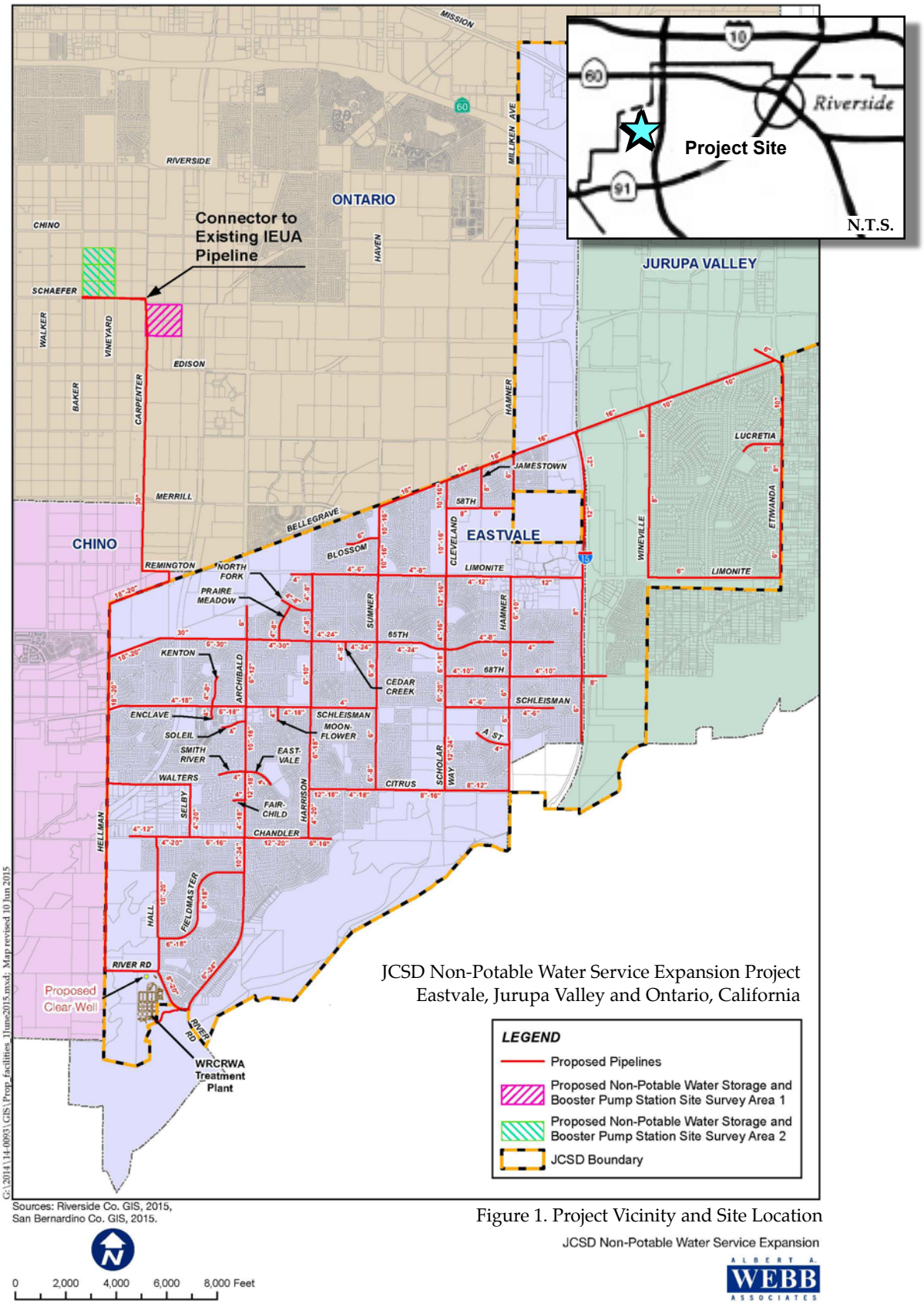
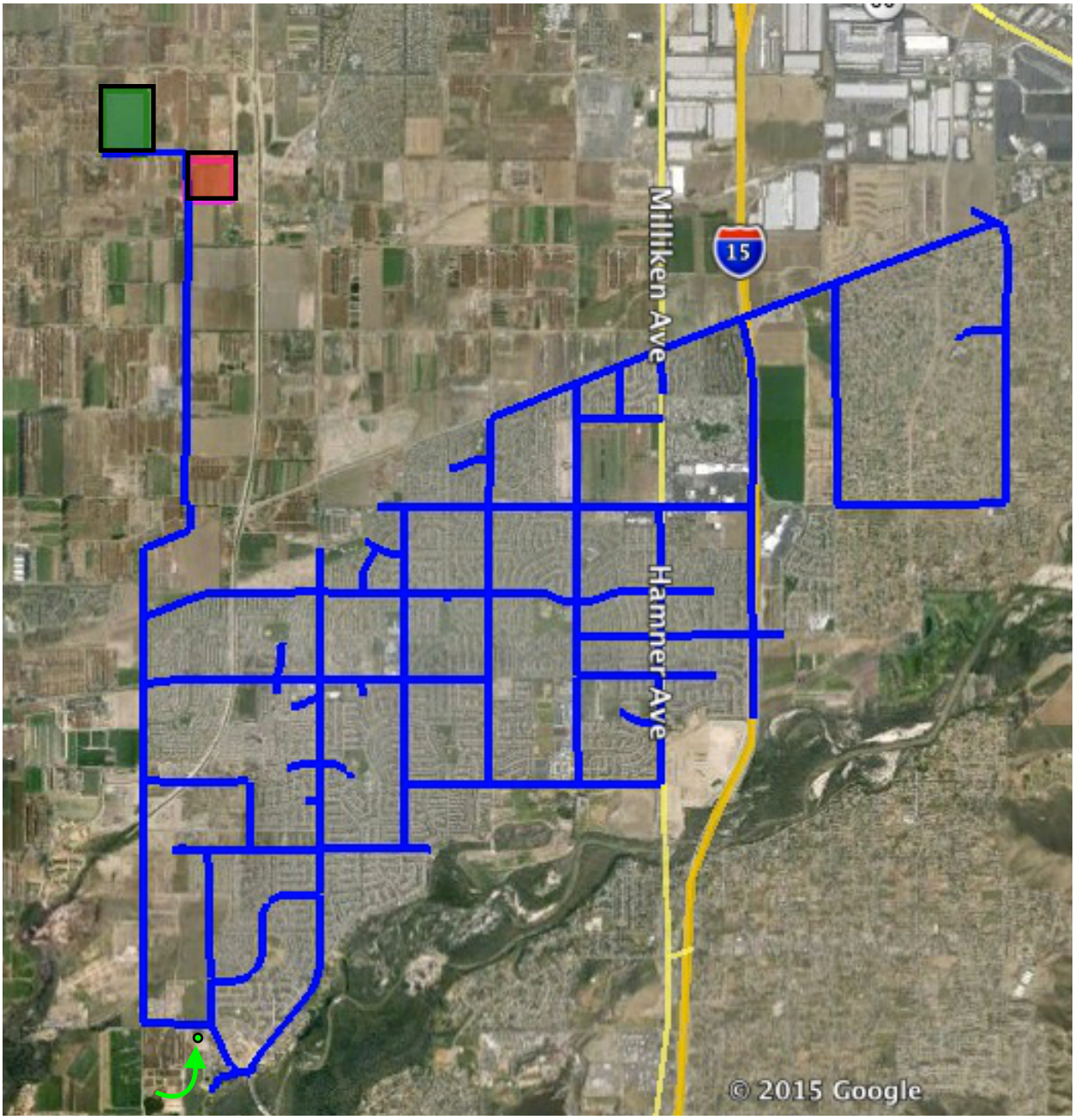


Figure 1. Project Vicinity and Site Location



Map Base: Google Earth 1995

Figure 2. Project Aerial

Legend

- Proposed Pipeline Route
- Eastern Proposed Non-Potable Water Storage and Booster Pump Station Site
- Western Proposed Non-Potable Water Storage and Booster Pump Station Site
- Clear Well

N

Feet
(approximate)

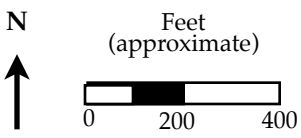
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JCSD Non-Potable Water Service Expansion Project
Eastvale, Jurupa Valley and Ontario, California



Map Source: Albert A. Webb Associates

Figure 3. Approximate Clear Well Location



JCSD Non-Potable Water Service Expansion Project
Eastvale, Jurupa Valley and Ontario, California

technical information on the biological resources of the site. We used the information to focus our survey efforts in the field.

3.2 Western Riverside County Multiple Species Habitat Conservation Plan

The final MSHCP was approved by the County of Riverside Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004, and implementation of the MSHCP began on June 23, 2004. The MSHCP is intended to balance the demands of the growth of western Riverside County with the need to preserve open space and protect species of plants and animals that are threatened with extinction. The overall goals of the Western Riverside County MSHCP are as follows:

- Promote the biological viability and recovery of western Riverside County's ecosystems and habitats and species dependent thereupon, toward a goal of reducing the need to list additional species in the future.
- Provide a comprehensive means to coordinate, standardize, streamline, and ensure closure regarding mitigation requirements of the ESA, CESA, and other applicable laws and regulations related to biological and natural resources within the plan area.
- Assure property owners, local governments, and other affected parties that conservation measures undertaken for species and wildlife habitat are adequately covered by the Western Riverside County MSHCP and will satisfy mitigation requirements of the ESA, CESA, and other applicable laws and regulations concerning impacts to those covered species and habitats.
- Establish and emphasize the use of incentives to encourage property owners to voluntarily conserve habitats and species as an alternative to regulatory mandates.
- Facilitate economic growth and prosperity so that it occurs in a manner consistent with the conservation of biological resources within the plan area.
- Provide the basis for issuance of incidental take permits for species, both listed and unlisted, that are adequately covered by the Western Riverside County MSHCP.
- Establish consistent mitigation standards for covered species for potential application by the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA.

The Western Riverside County MSHCP addresses incidental take of "covered" species. Of the 146 covered species addressed in the Western Riverside County MSHCP, 118 are considered to be adequately conserved simply by implementing the conservation program. Incidental take of these 118 species is permitted by the Western Riverside County MSHCP. The remaining 28 covered species are considered to be partially conserved – they would be adequately conserved when certain additional conservation requirements are implemented. The additional requirements are identified in the species-specific conservation objectives for those 28 species.

To provide adequate conservation of the covered species, the Western Riverside County MSHCP is designed to facilitate the assembly of an approximate 500,000-acre conservation area. The conservation area is expected to include approximately 347,000 acres of public and quasi-public lands, and approximately 153,000 acres of acquired private lands that are permanently protected and managed for the benefit of the covered species. Local permittees, including Riverside County and the participating incorporated cities, must collectively contribute approximately 97,000 acres of acquired private lands to the conservation area. The acquisition of these lands is funded by dedications and fee payments on private development.

3.3 Habitat Evaluation Surveys

3.3.1 Survey Approach

Ms. Karen Kirtland of NRAI conducted surveys on May 8 and 11, 2015 . She surveyed the various pipeline routes, as well as the clear well site. She did not survey the proposed non-potable water storage and booster pump station site because she could not access the site.

The two non-potable and booster pump station sites were later surveyed by Amec Foster Wheeler. Their survey findings are incorporated in this report.

Ms. Kirtland took notes on the biological values along each alignment of the project, as well as the clear well site. Representative photographs were taken as appropriate.

3.3.2 Survey Limitations

Most of the alignment could be both readily located and surveyed. However, there were three sections that were off-limits due to construction blocking access along Archibald and Hellman avenues, as well as access being blocked by barriers placed by the various dairy farms. These sections are:

- Hellman Avenue at Kimball Avenue north to along Carpenter Avenue and the proposed non-potable water storage and booster pump station site (later surveyed by Amec Foster Wheeler 2015)
- Hellman Avenue at Chandler south to River Road
- Along Interstate 15
- 65th Street at Coyote Trail Lane west to American Heroes Park along the powerline alignment.
- Schleisman Road has been realigned and now curves to connect with A Street, and the section of A Street identified on the project maps is now renamed Schleisman Road (so there are now two streets named Schleisman Road).

Ms. Kirtland employed several methods to evaluate such sites, including the use of binoculars and aerial photographs.

One additional limitation was the scale of the available maps. Ms. Kirtland addressed this limitation where appropriate by surveying additional areas around or along generalized locations.

4.0 Results

4.1 Weather and Topography

On May 8, the weather at the beginning of the survey was 55 degrees Fahrenheit, no wind and overcast skies. The weather at the end of the survey was 65 degrees Fahrenheit, with a two to five mile per hour wind and overcast skies with some light rain.

On May 11, the weather at the beginning of the survey was 65 degrees Fahrenheit, no wind and partly cloudy skies. The weather at the end of the survey was 76 degrees Fahrenheit, with a two to five mile per hour wind and partly cloudy skies.

The project is located on the former floodplain of the Santa Ana River. It has a very shallow slope and meandering elevational profile down to the southwest.

4.2 Soils

There are 40 soils that are within the impact area of the project (Soil Survey Staff, Natural Conservation Soil Service 2015).

Most of the soils underly already impacted areas, such as streets and houses, or have been seriously altered by agriculture and dairy farming. There are four areas where the project is located on unpaved or unimpacted areas.

4.2.1 First Alignment Area

The alignment extending from the north end of Hellman, along Bellegrave Avenue and north up Carpenter Road follows existing farm roads. Soils in this area include Hilmar loamy fine sand and Delhi fine sand.

Delhi fine sand soils are formed from sandy alluvium derived from granite, and are found on alluvial fans. They are classified as somewhat excessively drained soils. Delhi fine sand soils are the only soil along Carpenter Avenue, and along a portion of Bellegrave Avenue.

Hilmar loamy fine sands are formed from alluvium derived from granite, and are found on alluvial fans. They are classified as somewhat poorly drained soils. This soil is found along sections of Bellegrave Avenue.

4.2.2 Second Alignment Area

The second alignment on dirt is very short. It extends from the paved access road into the Western Riverside County Regional Wastewater Authority Treatment Plant (WRCRWATP) to a dirt area to the east. The alignment and proposed project area is underlain by two soils, both Ramona sandy loam, one severely eroded. Ramona sandy loams are formed of alluvium derived from granite, and occur on terraces and alluvial fans.

4.2.3 Third Area

The third area is one of two sites for the Proposed Non-Potable Water Storage and Booster Pump Station Site on existing croplands in Ontario. This area is underlain by Delhi fine sand.

4.2.4 Fourth Area

The fourth area is the second site for the Proposed Non-Potable Water Storage and Booster Pump Station on existing croplands in Ontario. This area is also underlain by Delhi fine sand.

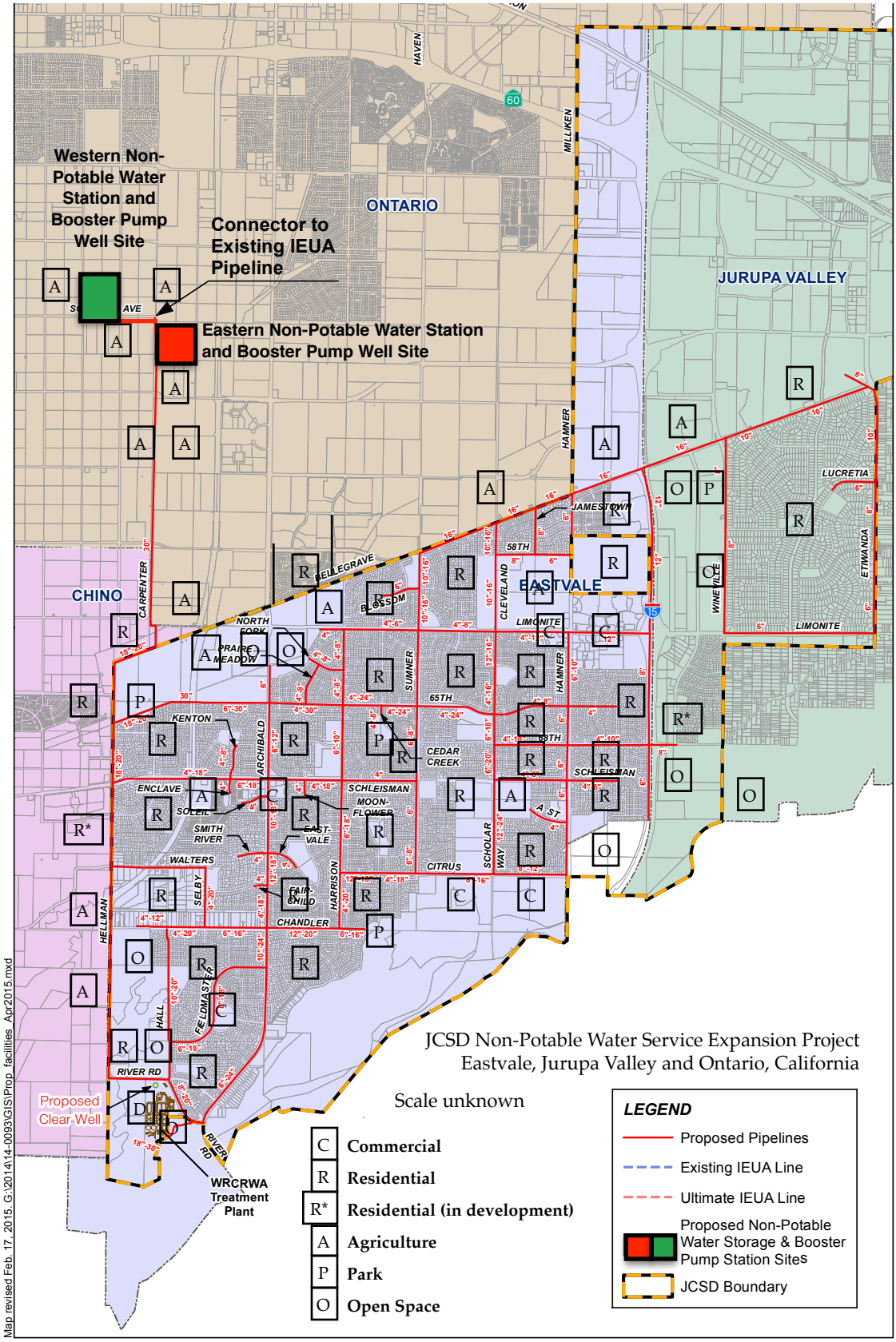
4.2 Land Uses

Land uses are varied in the alignment area. The majority of the alignment area is occupied by residential housing and paved streets. There are also a few commercial areas.

Those portion of the alignments with open space or agricultural lands are shown in Figure 4. These are sections of the alignment that may have an indirect impact on sensitive resources.

4.3 Plant Communities

The majority of the alignment area is dominated by landscaping and hardscape. The remaining areas are either in agriculture, dairy farming or have been severely impacted by human activities. Those areas with some remaining native cover are dominated almost entirely by a ruderal (weedy) plant community. the dominant common species in these communities are ripgut brome (*Bromus diandrus*), fiddleneck (*Amsinckia intermedia*) and hare barley (*Hordeum jubatum*).



Map Source: Albert A. Webb Associates

Figure 4. Existing and Future Land Uses

Please see Appendix A for a list of wildlife species observed within the project area.

4.4 Wildlife

Common wildlife species observed were limited to birds and one mammal species. Birds observed included house sparrow (*Passer domesticus*), red-tailed hawk (*Buteo jamaicensis*) and American crow (*Corvus brachyrhynchos*).

No amphibian species were observed, and no suitable habitat for amphibian species was found. No reptile species were observed, although limited habitat for some human tolerant species, such as side-blotched lizards (*Uta stansburiana*) was observed.

Please see Appendix A for a list of wildlife species observed within the project area.

Project Findings

The project will have a minimal impact on general, non-sensitive biological resources, the only direct impact being the temporary loss of weedy habitat at the proposed clear well site location, and along the access road in Crossroads Riverview Park.

4.5 MSHCP Consistency Analysis

The facilities located in the Jurupa Valley and Eastvale area are within the MSHCP Conservation Area. Section 6 of the MSHCP states t that all projects must be reviewed for compliance with plan policies pertaining to Riparian/Riverine resources, narrow endemic plant species, urban/wildlands interface, and additional survey needs as applicable.

4.6 Sensitive Biological Resources

The Western Riverside County MSHCP identified the project study area within the Plan Area has potentially having habitat for three Criteria Area Species. These species are the San Miguel savory, Brandt's phacelia, and San Diego ambrosia, were identified by the MSHCP as a species of concern for this project, as well as habitat for burrowing owl (*Athene cunicularia*). In addition, MSHCP required an assessment for the presence of riverine and riparian habitats, as well as vernal pools and fairy shrimp habitat.

A portion of the alignment and the two non-potable water storage and booster pump station sites fall outside the MSHCP in the City of Ontario. The alignment in this area and the eastern non-potable water storage and booster pump station sites have potential soils for the Delhi sands flower-loving fly. An analysis of impacts to this species prepared by Amec Foster Wheeler is included.

4.6.1 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)

4.6.1.1 Riparian/Riverine Areas

Riparian/Riverine Areas are defined by the MSHCP as "lands which contain Habitat dominated by tress [sic], shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year" (Riverside County Transportation and Land Management Agency, website address: http://www.rctlma.org).

Project Findings

There are no riparian/riverine areas with the alignment segments, clear water well or proposed non-potable water storage and booster pump station sites outside of the existing Cucamonga Creek and Day Creek channels

4.6.1.2 Vernal Pools

Vernal pools are defined by the MSHCP as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. . . . Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records" (Riverside County Transportation and Land Management Agency, website address: http://www.rctlma.org).

Project Findings

The alignments are within paved roads or along compacted dirt roads. There is no evidence of ponding or areas suitable for ponding of vernal pools along or near the various alignment sections. The loamy sand and fine sand soils along the alignment are not suitable for the development of vernal pools and no vernal pools are expected to occur along the alignment, proposed non-potable water storage or booster pump station sites.

4.6.1.3 Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is found in grasslands in ponded areas such as vernal pools, cattle watering holes, basins, etc. Fairy shrimp are confined to temporary pools that fill in spring and evaporate by late spring to early summer.

In southern California, this species is found primarily in the interior of western Riverside County, central Santa Barbara County, and eastern Orange County and more recently in Los Angeles County.

Since most pools preferred by fairy shrimp are found in flat areas, many have been lost to agricultural activities and residential development. The limited extent of available habitat, plus the ongoing loss has resulted in the vernal pool fairy shrimp being listed as threatened by the USFWS.

Project Findings

As described in the riparian/riverine section (4.6.1.1) there is no water or evidence of ponding. The soils are unsuitable for the formation of long-term ponds, and no obligate wetland perennial plant species were observed. There are no other sources of standing water, such as cattle ponds or watering holes that would provide suitable habitat for the vernal pool fairy shrimp.

4.6.1.4 Riverside Fairy Shrimp

Riverside fairy shrimp (*Streptocephalus woottoni*) are known only from ephemeral pools in farmlands and similar open, flat terrain. Fairy shrimp are confined to temporary pools that fill in spring and evaporate by late spring to early summer.

The Riverside fairy shrimp is known only from southern Orange and western Riverside and San Diego Counties. Ongoing farming and development in these areas has resulted in the loss and degradation of these habitats. Therefore, the USFWS has listed the Riverside fairy shrimp as endangered.

Project Findings

As described in the riparian/riverine section (4.6.1.1) there is no water or evidence of ponding. The soils are unsuitable for the formation of long-term ponds, and no obligate wetland perennial plant species were observed. There are no other sources of standing water, such as cattle ponds or watering holes that would provide suitable habitat for the Riverside fairy shrimp.

General Findings Under Section 6.1.2

The Day Creek and Cucamonga Creek channels are crossed by sections of the alignments, which will impact riverine/riparian habitat. NRAI recommends that construction in these channels be completely constructed underground to avoid disturbance to habitat.

The project will not impact any vernal pools or fairy shrimp.

4.6.2 Additional Survey Needs and Procedures (Section 6.3.2)

Please see Appendix B for the definitions of listing status under the USFWS, California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS) listings.

4.6.2.1 San Miguel Savory

San Miguel savory (*Satureja chandleri*) is a small herbaceous shrub found in valley and foothill grasslands, coastal scrub, riparian woodland, chaparral, and oak woodland habitats. San Miguel savory may be restricted to soils derived from gabbroic or metavolcanic parent material. It blooms from March to July.

The known elevation range extends from 120 to 1075 meters (390 to 3600 feet). San Miguel savory occurs in suitable habitats in the coastal mountains of Orange, Riverside and San Diego. It is also known to occur in Baja California.

San Miguel savory is not listed by the USFWS or the CDFW. It is on list 1B.2 of the California Native Plant Society (CNPS) Inventory.

Project Findings

The soils along the alignments, the clear well location and the proposed non-potable water storage and booster pump station sitesare not derived from gabbroic or metavolcanic soils, making it unlikely the San Miguel savory would grow in this area.

None of the alignments impact native undisturbed soils. In addition, most of Eastvale, Jurupa Valley and Ontario were mapped as being under cultivation or in dairy farming in 1940 (U.S. Forest Service 1940) and have been in continuous agricultural use until recently. The majority of the Eastvale and Jurupa Valley is now farm use since that time. In the area of the project that lies within Ontario, the surrounding area remains mostly agricultural.

San Miguel savory was not observed and is not expected to be present along or near the alignments, on the clear well site or the proposed non-potable water storage and booster pump station sites.

4.6.2.2 Brandt's Phacelia

Brand's phacelia (*Phacelia stellaris*) is an annual herb that grows from seed. It occurs in open areas within coastal dunes and coastal sage scrub, usually on sandy soils. It is known primarily from coastal areas, extending from the coast into western Riverside and San Bernardino counties where suitable soils are found. Brandt's phacelia blooms from March to June at elevations ranging from sea level up to 400 meters (1200 feet) in elevation.

Brand's phacelia is a federal candidate for listing by the USFWS and is on list 1B.1 of the CNPS Inventory. It is not listed by the CDFW.

Project Findings

None of the alignments impact native undisturbed soils. In addition, most of Eastvale, Jurupa Valley and Ontario were mapped as being under cultivation or in dairy farming in 1940 (U.S. Forest Service 1940) and have been in continuous agricultural use until recently. The majority of the Eastvale and Jurupa Valley is now farm use since that time. In the area of the project that lies within Ontario, the surrounding area remains mostly agricultural.

Suitable habitat for Brandt's phacelia is not present along or near the alignments, on the clear well site or the proposed non-potable water storage and booster pump station sites.

4.6.2.3 San Diego Ambrosia

San Diego ambrosia (*Ambrosia pumila*) is an annual herbaceous plant that grows from a rhizomatous root stock. It occurs in chaparral, coastal sage scrub, valley and foothill grassland, as well as vernal pools. San Diego ambrosia grows on sandy loam or clay soils. In valleys, it persists where disturbance is superficial.

San Diego ambrosia occurs from 30 to 182 meters (100 to 600 feet) in elevation throughout western Riverside and San Diego counties. It blooms from June through September.

San Diego ambrosia is listed as endangered by the USFWS and is on list 1b of the CNPS Inventory. It is not listed by the CDFW.

Project Findings

None of the alignments impact native undisturbed soils. In addition, most of Eastvale, Jurupa Valley and Ontario were mapped as being under cultivation or in dairy farming in 1940 (U.S. Forest Service 1940) and have been in continuous agricultural use until recently. The majority of the Eastvale and Jurupa Valley is now farm use since that time. In the area of the project that lies within Ontario, the surrounding area remains mostly agricultural.

Suitable habitat for the San Diego ambrosia is not present along the alignments, the clear well location or the proposed non-potable water storage and booster pump station sites.

4.6.2.4 Burrowing Owl

The burrowing owl (*Athene cunicularia hypogea*) is a resident species in lowland areas of southern California (Garrett & Dunn 1980). It prefers open areas for foraging and burrowing, and is found widely scattered in open desert scrub. This species is scarce in coastal areas, being found mainly in agricultural and grassland habitats. The largest remaining numbers are in the Imperial Valley, where it is common in suitable habitat adjacent to the agricultural fields.

The burrowing owl prefers large flat open areas for nesting and hunting (Garrett & Dunn 1981). This species lives in burrows constructed by other ground-dwelling species in grassy or sparse shrubby habitat. Burrowing owls also take over other types of burrows, including manmade objects such as pipes. This species forages low over the ground surface for insect prey, and seldom flies very high in the air.

As a result of coastal development, the burrowing owl is declining in coastal habitats. The CDFW has designated the burrowing owl as a California Species of Special Concern (CSC). These species are so designated because "declining population levels, limited ranges and/or continuing threats have made them vulnerable to extinction." (California Department of Fish and Wildlife 2012).

Project Findings

No suitable nesting or foraging habitat exists for the burrowing owl within or along the various alignments. Those sections of the alignments that are paved provide no suitable natural soils. Alignments that are on dirt roads also do not provide suitable habitat within the road bed, because the road surface is hard-packed and in regular use.

Suitable habitat adjacent to the alignments along dirt roads provide suitable habitat in some areas. However, most of the dirt sections of the alignment are within existing agricultural development, and burrowing owls are probably not present. No burrows were seen in those sections of the alignments accessible during the survey.

Suitable offsite locations for burrowing owls to be present are:

- Along the Southern California Edison easement west of Archibald up to the boundary with The American Heroes Park.
- The proposed clear well site location, and along the access road in Crossroads Riverview Park.
- Agricultural fields along Hellman Avenue, Scholar Way and Schleisman Road.
- The route from Hellman Avenue up to Carpenter Avenue, connecting with Schaefer Avenue, as well as the two non-potable water storage and booster pump station sites (Amec Foster Wheeler 2015)

NRAI assessed the edges of the agricultural and dairy fields for potential burrow sites. Usually, the edges of agricultural areas and dairy fields are populated by Beechey ground squirrels (*Ammosphermophilus beecheyi*) that thrive on the grain and other food sources found in farming areas, but none were found during the survey. The lack of squirrels may be due to predator control.

No burrows belonging to the ground squirrel or other burrowing species was observed, and there are no suitable human-built structures that might function as burrows.

No burrowing owl burrows were seen along any of the dirt access roads or the pump station sites, but suitable habitat exists in the surrounding areas.

4.6.3 Delhi Sands Flower-loving Fly

The Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) is found primarily on fine, sandy soils, often with wholly or partially consolidated dunes. These soil types are generally classified as the "Delhi" series (primarily Delhi fine sand). The habitat for this species is restricted to western Riverside and San Bernardino Counties, along the former floodplains of Lytle Creek and the Santa Ana River.

This species is present year round, but is only visible above ground when it emerges as an adult for foraging and mating in August and September. The remainder of the year is spent as an egg, pupae and subsequent molt stages until adulthood.

The habitat for this species has historically been limited, and agriculture practices and ongoing development of the San Bernardino Valley area has resulted in Delhi sands being further reduced. The species is listed as endangered by the USFWS. The CDFW has not formally designated this species.

Project Findings

There are Delhi sands along the alignment along parts of Bellegrave Avenue and Carpenter Avenue, as well as at the eastern storage and booster station site along Carpenter Avenue. Amec Foster Wheeler

(2015) conducted a site evaluation of these areas and determined that no suitable habitat remains for the Delhi sands flower-flying fly.

There are no Delhi sands at the western non-potable storage and booster station site along Schafer Avenue.

There are several other Delhi sands soils crossed by the various alignments, but all of these areas are either under development or within adjacent cultivated areas. No suitable habitat for the fly occurs in these scattered locations.

General Findings Under Section 6.3.2

There will be no direct impacts to Narrow Endemic Plant Species, or Delhi sands flower-loving fly.

There may be indirect impacts to burrowing owl along the dirt roads. Most of the available habitat is poor, making it unlikely, but not impossible, that birds will nest in suitable habitat along the roads. Based on these considerations, we recommend that a Take Avoidance Survey be conducted no less than 14 days prior to initiating ground activities using the recommended methods described in the burrowing owl staff report prepared by the CDFW (California Department of Fish and Game 2012a). Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls.

4.6.4 Guidelines Pertaining to the Urban/Wildland Interface (Section 6.1.4)

The Urban/Wildland Interface guidelines of the MSHCP address indirect effects associated with locating development in the MSHCP Conservation Area near wildlands or other open space areas.

Project Findings

The alignments are surrounded by variety of land uses, including residential development, utilities and flood control facilities, and open space. Because most of the facilities will be underground, there is no need to implement the Interface Guidelines in areas adjacent to the open space.

The clear well will be an aboveground structure. However, because it will be located between in an existing wastewater treatment plant facility and a residential area, and is not near any wildlands or open space area, there is no need to address the requirements of Section 6.1.4 of the MSHCP.

General Findings Under Section 6.1.4

The various alignments and well sites are not adjacent to any wildlands. All open space areas have already been impacted by agriculture, dairy farming and rural development.

4.6.5 Covered Activities (Section 7.0)

The Western Riverside County MSHCP includes a number of public and private activities that may or may not be subject to additional requirements, depending upon their location. Covered Activities that are outside Criteria Areas and Public/Quasi-Public Lands as identified in the MSHCP are permitted under the Plan, "subject to consistency with MSHCP policies that apply outside the Criteria Area (such as policies related to Riparian and Riverine Areas and Vernal Pools, Narrow Endemic Plant Species, Additional Survey Needs and Procedures, and Funding/Fee Issues)".

Project Findings

The property is subject to those additional policies identified in the MSHCP.

4.6.6 Habitat Conservation Plan for the Stephens Kangaroo Rat

The species objectives for the Stephens kangaroo rat (SKR) in the Western Riverside MSHCP were designed to incorporate the objectives and be consistent with the Long-Term Stephens Kangaroo Rat Habitat Conservation Plan.

Project Findings

The project is not located within the SKR fee area. The project proponent is not required to pay the Stephens kangaroo rat fee required under the Long-term Stephens Kangaroo Rat Habitat Conservation Plan.

4.6.7 Project Relationship to Reserve Assembly, Eastvale Area Plan (Section 3.3.17)

There are two sections of the alignments that are within two Criteria Cells. The first section is along Citrus Avenue. This area lies with Criteria Cell 786. The second section of the alignment is along the southern part of Interstate 15. This area lies within Criteria Cell 698. Both cells are part of SU1 Santa Ana River Central.

The MSHCP identified specific areas for protection through the Conservation Area. Section 3.3.17 identifies "target acreages, applicable Cores and Linkages, Area Plan Subunits and Criteria for the Cities of Eastvale."

The MSHCP identifies the goals and issues for Subunit SU1 Santa Ana River Central as follows:

- Target acreage range for Additional Reserve Lands within Subunit: 145 - 290 acres
- Planning Species:
  - arroyo chub
  - Santa Ana sucker
  - Cooper's hawk
  - double-crested cormorant
  - ferruginous hawk
  - least Bell's vireo
  - loggerhead shrike
  - osprey
  - peregrine falcon
  - southwestern willow flycatcher
  - tree swallow
  - western yellow-billed cuckoo
  - white-faced ibis
  - white-tailed kite
  - yellow-breasted chat
  - yellow warbler
  - bobcat
  - western pond turtle
  - Santa Ana River woollystar
- Biological Issues and Considerations:
  - Provide for and maintain a continuous Linkage along the Santa Ana River from the eastern boundary of the Area Plan to Prado Basin and to Chino Hills to the west.

- ★ Conserve riparian scrub/woodlands/forests in the Eastvale Area Plan portion of the Santa Ana River for the benefit of southwestern willow flycatcher, least Bell's vireo, and other riparian species.
- ★ Conservation of alluvial fan sage scrub associated with the Santa Ana River to support Santa Ana River woollystar.
- ★ Conserve foraging and breeding Habitats occurring in grasslands adjacent to the Santa Ana River to support sensitive bird species such as loggerhead shrike and white-faced ibis.
- ★ Conserve existing wetlands and wetlands functions and values in the Eastvale Area Plan portion of the Santa Ana River, focusing on existing Habitats in the river.
- ★ Maintain Core and Linkage Habitat for bobcat.
- ★ Maintain Core Area for western pond turtle.

The MSHCP identifies the goals for Cell 698 as follows:

> *Conservation within this Cell will contribute to the assembly of Existing Core A. Conservation within this Cell will focus on riparian scrub, woodland and forest and water habitats associated with Santa Ana River. Areas conserved within this Cell will be connected to riparian habitat proposed for conservation to the south in Cell #788 and to the east in Cell #699 of the Jurupa Area Plan. Conservation within this Cell will range from 35%-45% of the southeastern portion of the Cell.*

The MSHCP identifies the goals for Cell 786 as follows:

> *Conservation within this Cell will contribute to assembly of Existing Core A. Conservation within this Cell will focus on riparian scrub, woodland and forest and water habitats associated with Santa Ana River. Areas conserved within this Cell will be connected to riparian habitat proposed for conservation to the south in Cell #876 and to the southwest in Cell #875. Conservation within this Cell will range from 20%-30% of the southern portion of the Cell.*

Project Findings

Those portions of the alignment within the two Criteria Cells are along existing roadways and do not support any of the resources proposed for conservation within the cells or the subunit. They will not impact the proposed Reserve Assembly.

4.7 Jurisdictional Waters

4.7.1 Army Corps of Engineers

The Corps regulates discharges of dredged or fill material into waters of the United States. These watersheds include wetlands and non-wetland bodies of water that meet specific criteria. The lateral limit of Corps jurisdiction extends to the Ordinary High Water Mark (OHWM) and to any wetland areas extending beyond the OHWM; thus, the maximum jurisdictional area is represented by the OHWM or wetland limit, whichever is greater.

Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act is founded on a connection or nexus between the water body in question and interstate (waterway) commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations.

Project Findings

There are no Corps jurisdictional waters outside of the Day Creek and Cucamonga Creek channels that run north to south through the cities of Ontario, Eastvale and Jurupa Valle. Both of these drainages connect with the Santa Ana River.

4.7.2 Regional Water Quality Control Board

The Corps has delegated the authority for use of 404 permits to each individual state. The use of a 404 permit in California is regulated by the State Water Resources Control Board (SWRCB) under Section 401 of the Clean Water Act regulations. The Board has authority to issue a 401 permit that allows the use of a 404 permit in the state, with the authority in the state being vested in regional offices known as Regional Water Quality Control Boards (RWQCB).

Under the Porter-Cologne Act of 2003, the SWRCB has extended its responsibilities to include impacts to water quality from non-point source pollution.

In addition, the SWRCB has the responsibility to require that projects address ground water and water quality issues, which would be evaluated as part of the geotechnical and hydrology studies. Their authority extends to all waters of the State (of California).

Project Findings

There are no RWQCB jurisdictional waters outside of the Day Creek and Cucamonga Creek channels that run north to south through the cities of Ontario, Eastvale, and Jurupa Valley Both of these channels connect with the Santa Ana River.

4.7.3 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW), through provisions of the State of California Administrative Code, is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may adversely be affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. Lateral limits of jurisdiction are not clearly defined, but generally include any riparian resources associated with a stream or lake, CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream or lake as defined by CDFW.

Project Findings

There are no CDFW jurisdictional waters outside of theDay Creek and Cucamonga Creek channels that run north to south through the cities of Ontario, Eastvale, and Jurupa Valley. Both of these channels connect with the Santa Ana River.

General Findings on Jurisdictional Waters

Day Creek and Cucamonga Creek channels are crossed by sections of the alignments, which will impact jurisdictional waters. NRAI recommends that construction in these channels be constructed completely underground to avoid disturbance to habitat and jurisdictional waters .

4.8 Raptors, Migratory Birds, and Habitat

Most of the raptor species (eagles, hawks, falcons and owls) are experiencing population declines as a result of habitat loss. Some, such as the peregrine falcon, have also experienced population losses as a result of environmental toxins affecting reproductive success, animals destroyed as pests or collected for falconry, and other direct impacts on individuals. Only a few species, such as the red-tailed hawk and

barn owl, have expanded their range in spite of or a result of human modifications to the environment. As a group, raptors are of concern to state and federal agencies.

Raptors and all migratory bird species, whether listed or not, also receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, bird parts (including nests and eggs) except in accordance with regulations prescribed by the Secretary of the Interior Department (16 U. S. Code 703).

Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended. State protection is extended to all birds of prey by the CDFW Code, Section 2503.5. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

Project Findings

Within the right-of-way of the various alignments there is no nesting habitat for raptors or migratory birds. Along the alignments are a number of trees and suburban habitats that could provide suitable nesting for migratory and raptor species. However, construction of the non-potable water line will take place in an area already experiencing high levels of human activity and noise. Because of the ongoing human activity and noise levels along the alignment, these impacts are not expected to be significant.

The additional construction noise is not expected to significantly impact nesting behavior. The final project is mostly underground, and therefore there will be no permanent loss of nesting or foraging habitat. The clear well will be constructed in an already disturbed area and will not impact nesting or foraging habitat. Activity around the clear well is expected to be limited to minimal maintenance and therefore will not have ongoing impacts.

Amec Foster Wheeler identified potential nesting bird habitat in trees along Carpenter Avenue and on the non-potable water storage and booster pump station site (two locations). Based on their review, NRAI recommends the following

1. A breeding bird survey will be required to determine if nesting is occurring. The survey should take place within ten days of construction.
2. Occupied nests will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either (a) the adult birds have not begun egg-laying and incubation; or (b) the juveniles from the occupied nests are foraging independently and are capable of independent survival.
3. If the biologist is not able to verify one of the above conditions, then no disturbance shall occur within 300 feet of non-raptor nests, and within 500 feet of raptor nests, during the breeding season to avoid abandonment of the young (California Department of Fish and Wildlife 2012b).

4.9 Habitat Fragmentation and Wildlife Movement

Wildlife movement and the fragmentation of wildlife habitat are recognized as important issues that must be considered in assessing impacts to wildlife. In summary, habitat fragmentation is the division or breaking up of larger habitat areas into smaller areas that may or may not be capable of independently sustaining wildlife and plant populations. Wildlife movement (more properly recognized as species movement) is the temporal movement of species along various types of corridors. Wildlife corridors are especially important for connecting fragmented wildlife habitat areas.

Project Findings

The various alignments are in an area already fragmented and divided by roads, housing and farming. There are no native habitats left, and impacts to wildlife movement has already occurred. The majority of the final project is underground, and therefore there will be no additional permanent fragmentation of habitat or impacts to wildlife movement. The construction of the clear well is in an already disturbed area and will not add to habitat fragmentation. Operation of the well will have no permanent impacts to wildlife movement.

The project will not add to the ongoing fragmentation of habitat in this area, nor will it affect wildlife movement in this area of Riverside County.

4.10 Additional Measures

No project mitigation is required. Recommended Best Management Practices include (modified from the MSHCP):

- Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
- The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible,
- Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
- When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFW, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
- The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.

- To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).

- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

- The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

5.0 References

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Appendix A - Plant and Animal Species Observed

*denotes non-native plants
List does not include cultivated or landscape plants, sensitive or listed plant species.

ANGIOSPERMAE: DICOTYLEDONES	**DICOT FLOWERING PLANTS**
Asteraceae	**Sunflower family**
Ambrosia psilostachya	Western ragweed
**Centaurea melitensis*	Tocalote
Helianthus annuus	Annual sunflower
Heterotheca grandiflora	Telegraph weed
Boraginaceae	**Borage family**
Amsinckia menziesii	Fiddleneck
Brassicaceae	**Mustard family**
**Hirschfeldia incana*	Short-podded mustard
**Sisymbrium irio*	London rocket
Chenopodiaceae	**Saltbush family**
**Salsola tragus*	Russian thistle
ANGIOSPERMAE: MONOCOTYLEDONAE	**MONOCOT FLOWERING PLANTS**
Poaceae	Grass family
* *Avena barbata*	Slender wild oats
* *Bromus diandrus*	Ripgut brome
* *Bromus madritensis*	Red brome
**Hordeum murinum*	Hare barley
**Schismus barbatus*	Mediterranean grass

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

Animals

AVES	**BIRDS**
Charadriidae	**Plovers and relatives**
Charadrius vociferus	Killdeer
Accipitridae	**Kites, hawks and eagles**
Circus cyaneus	Northern harrier
Accipiter cooperi	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Caracaras and falcons**
Falco sparverius	American kestrel
Columbidae	**Pigeons and doves**
Zenaida macroura	Mourning dove
Trochlidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Tyrannidae	**Tyrant flycatchers**
Sayornis nigricans	Black phoebe
Tyrannus verticaulis	Western kingbird

Corvidae	**Crows and ravens**
Corvus brachyrhynchos	American crow
Mimidae	**Mimic thrushes**
Mimus polyglottos	Northern mockingbird
Icteridae	**Blackbirds, orioles and relatives**
Agelaius phoeniceus	Red-winged blackbird
Fringillidae	**Finches**
Carpodacus neomexicanus	House finch
Passeridae	**Old World sparrows**
Passer domesticus	House sparrow
MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and hares**
Sylvilagus audubonii	Audubon's cottontail

Nomenclature follows Hall 1981 and Grenfell et al. 2003.

Appendix B - Definitions of Species Status Classification

FED: Federal Classifications

END Taxa listed as endangered

THR Taxa listed as threatened

PE Taxa proposed to be listed as endangered

PT Taxa proposed to be listed as threatened

C2* The U.S. Fish and Wildlife Service (USFWS) revised its classifications of candidate taxa (species, subspecies, and other taxonomic designations). Species formerly designated as "Category 1 Candidate for listing" are now known simply as "Candidate". The former designation of "Category 2 Candidate for listing" has been discontinued. The USFWS will continue to assess the need for protection of these taxa and may, in the future, designate such taxa as Candidates. NRAI has noted the change in species status by marking with an asterisk (*) those C2 candidates that were removed from the list.

C Candidate for listing. Refers to taxa for which the USFWS has sufficient information to support a proposal to list as Endangered or Threatened and issuance of the proposal is anticipated but precluded at this time.

BCC Bird of Conservation Concern

ND Not designated as a sensitive species

STATE: State Classifications

END Taxa listed as endangered

THR Taxa listed as threatened

CE Candidate for endangered listing

CT Candidate for threatened listing

CFP California Fully Protected. Species legally protected under special legislation enacted prior to the California Endangered Species Act.

SSC Species of Special Concern. Taxa with populations declining seriously or that are otherwise highly vulnerable to human development.

SA Special Animal. Taxa of concern to the California Natural Diversity Data Base regardless of their current legal or protected status.

WL Watch list.

ND Not designated as a sensitive species

CNPS: California Native Plant Society Classifications

1A Plants presumed by CNPS to be extinct in California

1B Plants considered by CNPS to be rare or endangered in California and elsewhere

2P Plants considered by CNPS to be rare, threatened or endangered in California, but which are more common elsewhere.

3 Review list of plants suggested by CNPS for consideration as endangered but about which more information is needed.

4 Watch list of plants of limited distribution whose status should be monitored

CNPS: Threat Codes

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Fairly endangered in California (20-80% occurrences threatened)

.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)