BIOLOGICAL REPORT
FOR THE
MEREDITH INTERNATIONAL CENTRE
SPECIFIC PLAN AMENDMENT

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The Meredith International Centre Specific Plan Amendment (Meredith) project site is located in the City of Ontario, San Bernardino County, California (Figure 1). The site is located approximately west of North Archibald Avenue, east of North Vineyard Avenue, north of the I-10 Freeway and south of Inland Empire Boulevard. One portion of the site occurs north of Inland Empire Boulevard (Figures 2 and 3). Italo M. Bernt Elementary School, located north of the main project site is also included. Roads through the site are not considered part of the project site.

The site is within Section 22 of Township 1 South and Range 7 West of the Guasti, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2).

A site assessment and biological surveys were conducted at the site at the request of Applied Planning, Inc. The surveys conducted in spring 2014 included all of the project site; and consisted of;

- a general biological assessment,
- general plant and wildlife surveys,
- vegetation mapping,
- habitat assessment for assessing potential for special status plant species[1], and,
- habitat assessment for assessing potential for special status wildlife species[2],

Focused surveys for threatened, endangered and sensitive plant or wildlife species were not conducted as part of this assessment.

The entire Meredith project site consists of approximately 104 acres of developed and disturbed undeveloped land, located within the built-up city limits. The project site has been significantly impacted due to years of disking, off-road trails and footpaths. The site is flat with little topographical variation. Site topography varies from an elevation of approximately 990 feet above msl along the eastern boundary to approximately 1,025 along the western boundary of the site (Figure 3).

The site has a Mediterranean type climate, with hot dry summers, relatively cool winters and sparse rains. Annual precipitation for the region averages 22 inches, and average annual temperature ranges from 48^0 to 75^0 F. Rainfall during the 2013/2014 season was below normal throughout southern California (Appendix A).

[1] Special status plant species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, California Native Plant Society Species List (CNPS list 1-4), or otherwise sensitive species.

[2] Special status wildlife species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, or otherwise sensitive species.

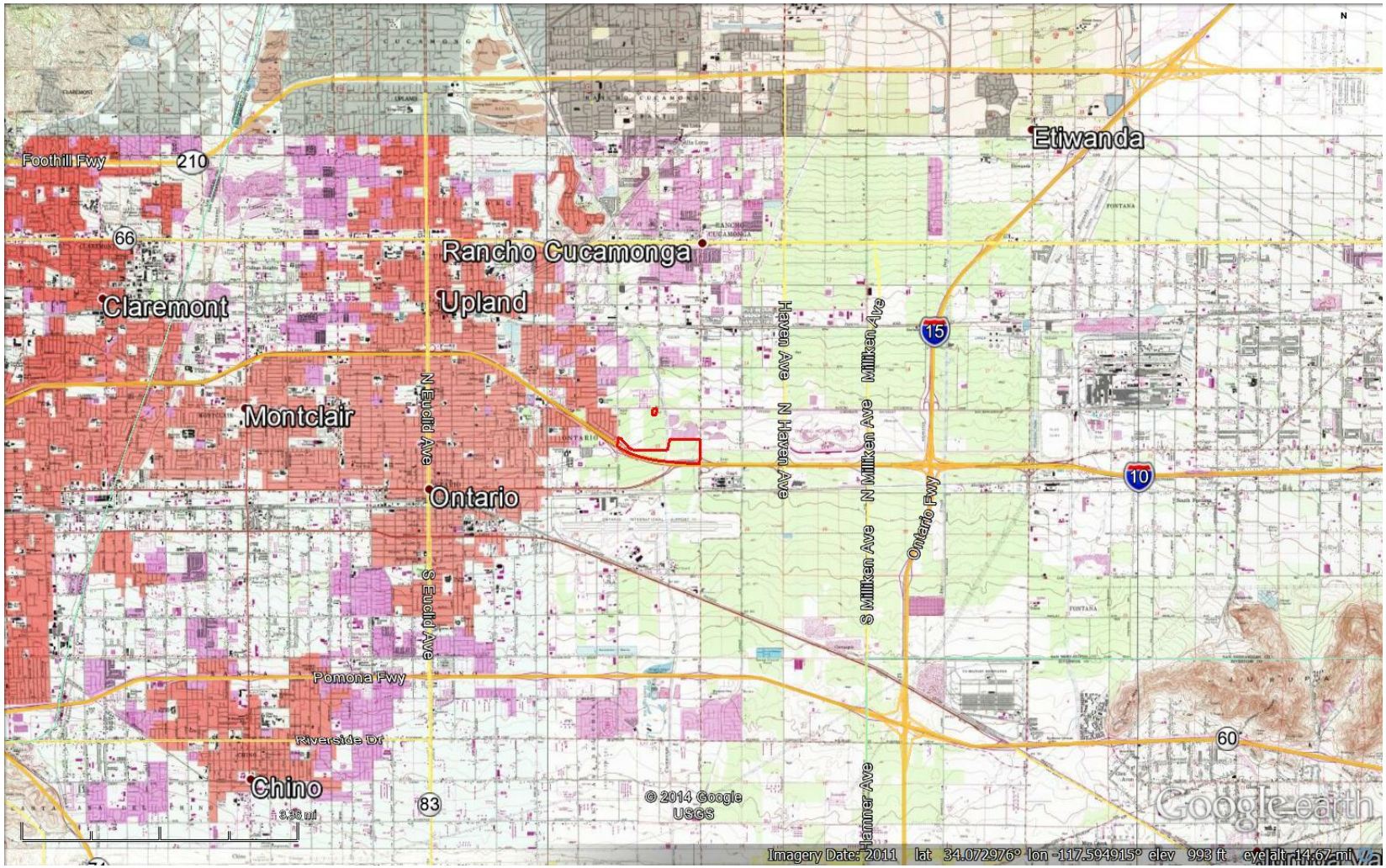

Figure 1: Location of the Meredith project site in San Bernardino County, southern California. Source: USGS Topographical quadrant: Guasti.

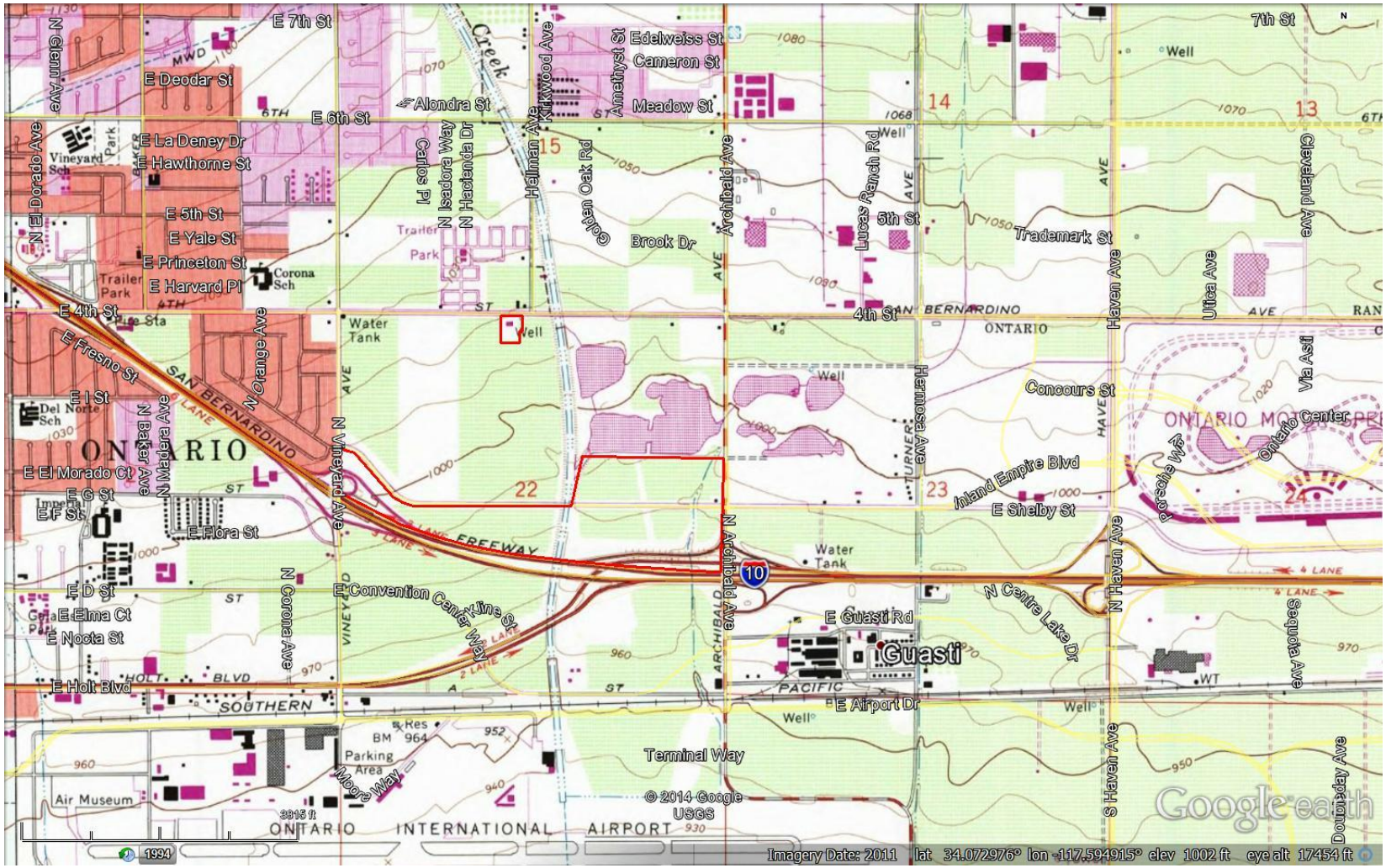

Figure 2: Location of the Meredith project site (in red). Source: USGS Topographical quadrant: Guasti.

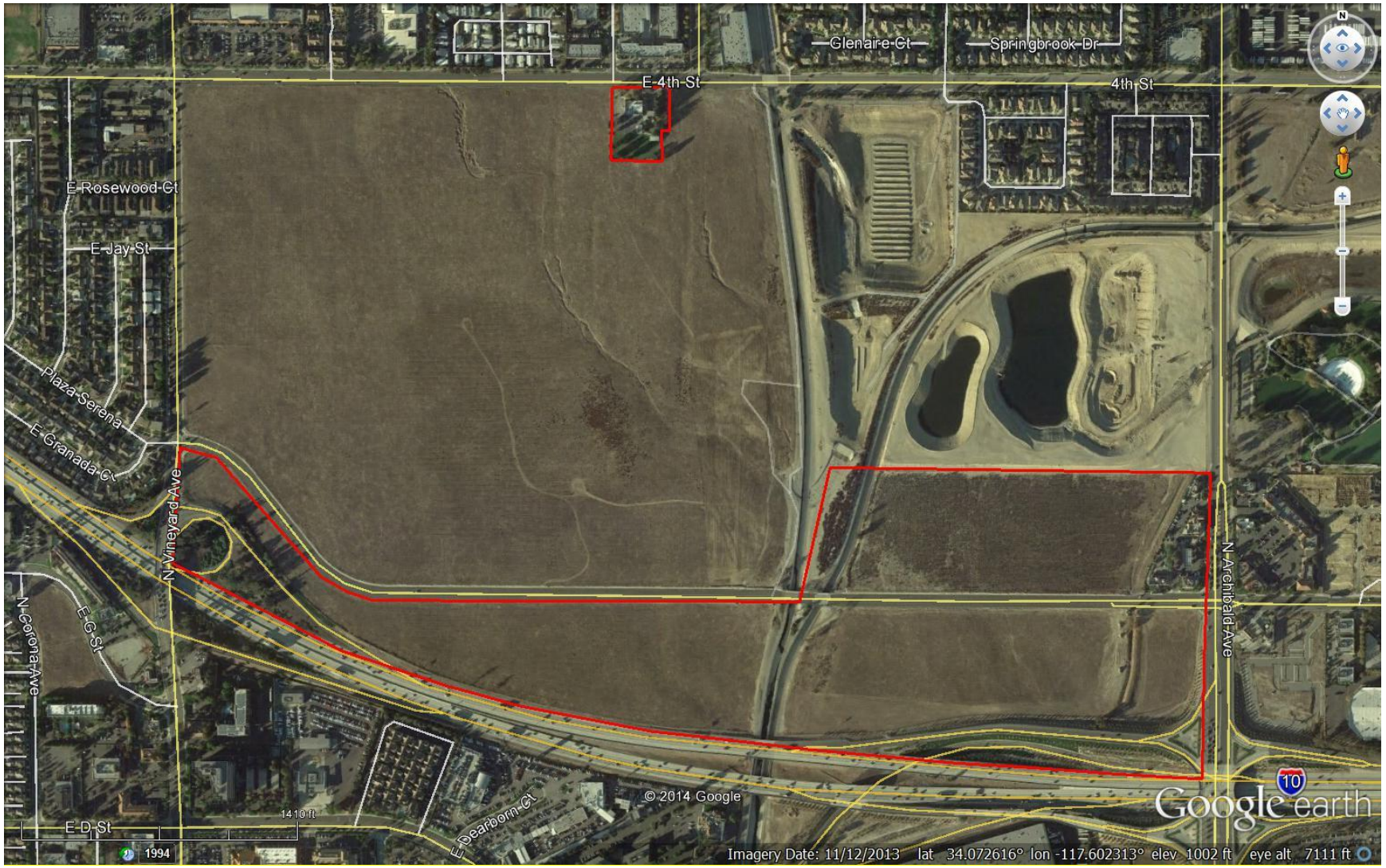

Figure 3: Location of the Meredith project site (in red). Source: Google Earth, Inc.

2.0 METHODS

2.1 Biological Resources Information sources

In addition to the site visit, field surveys, vegetation mapping, wildlife inventories, and habitat assessments information on the biological resources of the project site was obtained by reviewing existing available data. Databases such as the California Natural Diversity Database (CNDDB 2014) and California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001) were reviewed regarding the potential occurrence of any special status species or sensitive habitat within or in close proximity of the project site.

The resources used in this thorough archival review included the following;

- California Natural Diversity Data Base (CNDDB) for the USGS 7.5' quadrangle which comprised the study area: Hesperia and neighboring quads for pertinent data,
- California Native Plant Society Inventory of rare and endangered vascular plants of California (Tibor 2001; 6th Edition of CNPS Inventory),
- Special Animals (including California Species of Special Concern), CDFG, Natural Heritage Division, January 2011,
- Special Vascular Plants, Bryophytes, and Lichens List, CDFG, Natural Heritage Division, July 2014,
- State and Federally Listed Endangered, Threatened and Rare Plants of California, CDFG, Natural Heritage Division, July 2014,
- State and Federally Listed Endangered and Threatened Animals of California, CDFG, Natural Heritage Division, March 2014,
- Review of previous biological assessment reports and species lists for the region and neighboring areas,

Published literature (Chesser *et. al.* 2013, Sibley 2000, Small 1994, Moyle *et al.* 1995, Jennings and Hayes 1994, Stebbins 1985, Webster *et al.* 1980, Burt and Grossenheider 1976).

2.2 Vegetation mapping, habitat assessment for special status plant species and general botanical surveys

Vegetation mapping, habitat assessments and general botanical surveys were conducted on 10 June 2014 by Paul Galvin. Vegetation mapping was conducted by walking throughout the study area. Vegetation types within the project site were mapped according the state-wide Holland classification system (Holland 1986). This system is roughly equivalent to mapping at the association level and consists of using the common name of the two most common species in the designation along with the vegetation type. Identification and mapping of vegetation also incorporated habitat descriptions provided by Sawyer *et al.* 2009. A general plant species list was compiled concurrently with the

vegetation mapping surveys (Appendix B). Scientific and common nomenclature in Hickman (1993) was used as the taxonomic resource.

The habitat assessment for special status plant species was conducted concurrently with the vegetation mapping, and concentrated on habitats with the highest potential for yielding special status species, although all areas of the project site were checked. Each habitat within the study area was traversed on foot, examining the areas for particular features such as seeps, unique geologic types, exposures, etc., that would indicate the presence of a preferred habitat for special status plant species.

2.3 Wildlife surveys and habitat assessment for special status wildlife

Field surveys for wildlife and habitat assessment for special status wildlife species were conducted on 10 June 2014 by Paul Galvin. All portions of the site were traversed on foot to survey each vegetation community, look for evidence of wildlife presence and conduct an assessment of potential habitat for special status species. Wildlife species were detected during the field surveys by sight, vocalizations, burrows, tracks, scat, scrapings and other sign. No specialized techniques, such as trapping, mist nets or taped calls, were used during the surveys.

Latin and common names of wildlife referred to in this report follow Powell and Hogue (1979), Hogue 1993 and NatureServe http://www.natureserve.org/explorer/) for invertebrates; NatureServe for fish; North American Herpetology (http://www.naherpetology.org/nameslist) for amphibians and reptiles; American Ornithologists' Union Checklist of North American Birds - 7th Edition (2005) for birds; Baker at al. 2003 for mammals; and Grenfell et al. 2003, California Department of Fish and Game & California Interagency Wildlife Task Group (http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf) and Perrins et al. 1983 for common names.

3.0 RESULTS

3.1 Soils

The soils on the study area are sandy loams from the Tujunga-Soboba association, which are excessively drained, deep soils on alluvial valley floors (NRCS Soil Survey 2014). One soil type from this association occurs onsite (Figure 4), as follows;

Tujunga loamy sand, 0 to 5 percent slopes
Tujunga loamy sand consists of somewhat excessively drained, nearly level to gently sloping soils that formed in alluvium from granitic sources. They occur on alluvial fans and have. Surface soils are brown and pale brown, 10YR 5/3 and 10YR 6/3 when dry, dark brown 10YR 4/3 when moist; sandy loam. Vegetation is mostly chamise, annual forbs and grasses. Soils may be used for irrigated crops such as alfalfa.

3.2 Vegetation communities

The Meredith project site has been significantly impacted due to years of disking and disturbance (Photographs 1 through 8). The study area contains four vegetation communities; non-native grassland, ruderal, Riversidean sage scrub and Eucalyptus windrow; in addition to developed areas. It is likely that the entire project area was scrub in the past but disking has resulted in removal of the shrubs and other changes in vegetation composition over much of the site. The vegetation classification best describes the current distribution of vegetation community's onsite. Each vegetation type was classified into vegetation communities described by the Holland (1986) system; with the equivalent category under Sawyer *et al.* 2009 also included. The distribution of vegetation communities is shown in Figure 5, and detailed below (Table 1).

Non-native grassland
This vegetation type describes areas dominated by non-native European annual grasses, with a large component of ruderal forbs. It is mapped as California annual grassland series by Sawyer *et al.* 2009. On the project site, the non-native grassland is associated with areas of historic grazing, disking and off-road recreational vehicle use. Soils are generally deep, well-drained sand to fine sandy loam.

The dominant species in the non-native grasslands included summer mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena fatua*) and barley (*Hordeum murinum*). Other species present included Russian thistle (*Salsola tragus*), lamb's quarters (*Chenopodium album*), cheeseweed (*Malva parviflora*), horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), western ragweed (*Ambrosia psilostachya*) and common fiddleneck (*Amsinckia intermedia*).

Non-native grassland was the dominant site vegetation. A total of 62.7 acres of non-native grassland occurred in the project site (Table 1; Figure 5).

Ruderal/Disturbed

Ruderal is a low to medium growing herbaceous vegetation type dominated by annual grasses and forbs of Mediterranean origin. It is a type of non-native grassland community, mapped under the semi-natural herbaceous stands by Sawyer *et al.* 2009. Ruderal areas are often devoid of vegetation for portions of the year due to disking.

A few areas adjacent the large concrete culverts that bisect the site were mapped as ruderal/disturbed. These areas had sparse cover of Russian thistle, summer mustard and other weeds.

Approximately 2.2 acres of Ruderal/Disturbed occurred at the project site (Table 1; Figure 5).

Riversidean sage scrub

Riversidean Sage Scrub is the most xeric expressions of Coastal Sage Scrub (Holland 1996). Riversidean sage scrub is composed of low growing, soft, woody, drought-deciduous shrubs and herbaceous plants that grow on steep slopes, severely drained soils, or clays that slowly release soil moisture. Mesic sites generally occur in microhabitats characterized by north-facing slopes in canyons and small drainages. Xeric habitats typically occur in areas on ridges and south-facing slopes. Species composition and diversity is determined by soil factors, fire, and topography. It is mapped under the California buckwheat and black sage series by Sawyer *et al.* 2009.

At the project site Riversidean sage scrub occurred north of Inland Empire Boulevard between the culverts and North Archibald Avenue. This habitat has been highly disturbed from regular disking. In fact the scrub appears to have been mostly absent from 1994 through 2005 (Google earth aerial photographs). Recent lack of disking in this area has allowed the scrub to recover somewhat. Due to the disking the scrub currently present was of low quality and low species diversity.

These areas were dominated almost entirely by California buckwheat (*Eriogonum fasciculatum*), with deerweed (*Acmispon glaber*), mulefat (*Baccharis salicifolia*) and non-native grasses also present.

A total of 27.9 acres of Riversidean sage scrub occurred in the project site (Table 1; Figure 5).

Eucalyptus windrow

A few blue gum (*Eucalyptus* sp.) trees were located in the central area adjacent the culverts. The understory consisted of non-native grasses and disturbed ground.

Developed

The developed areas included the Italo M. Bernt Elementary School in the northern portion of the site, a commercial development at the corner of Inland Empire Boulevard and North Archibald Avenue, the large north/south culverts that bisect the site, freeway-off ramps, exotic landscaping associated with the freeway and commercial development. The landscaped areas include some pines, willows, mulefat and non-native weeds.

Table 1: Vegetation communities at the Meredith project site.

Vegetation communities/Land Cover Type	**PROJECT SITE**
Non-native grassland	62.7
Ruderal/Disturbed	2.2
Riversidean sage scrub	18.6
Eucalyptus windrow	0.5
Developed	20.4
Site total	**104.4**

Figure 4: Soils at the Meredith. Source: NRCS Soil Survey 2014; TvB = Tujunga loamy sand, 0 to 5 percent slopes.

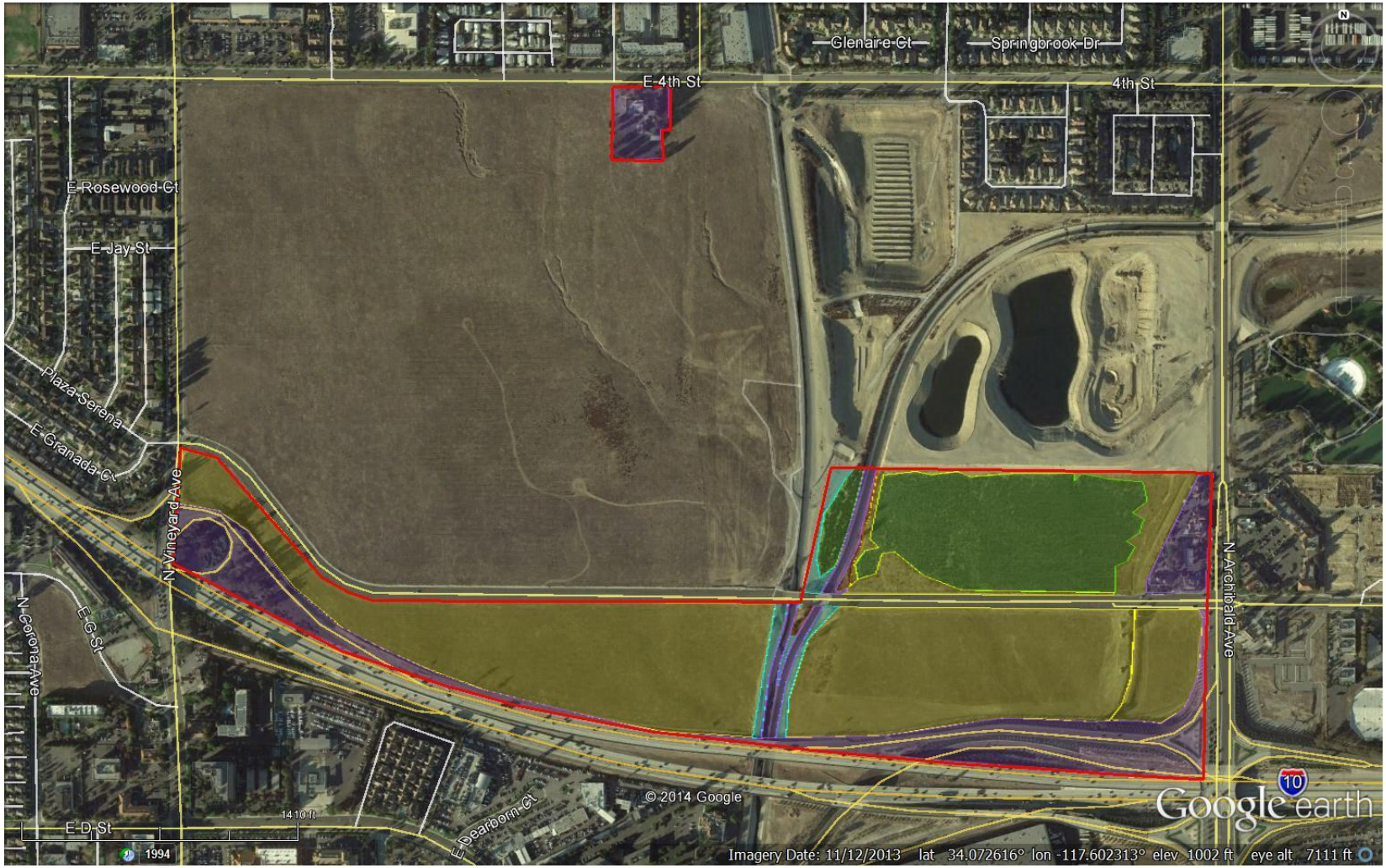

Figure 5: Vegetation map of Meredith site (in red). Yellow = non-native grassland; Blue = Ruderal; Green = Riversidean sage scrub; Purple = developed. Source: Google Earth, Inc.

3.3 Plant Inventory

Plant species at the Meredith project site consisted of species associated with open and disturbed habitats. A total of 48 vascular plant species, representing 20 families were detected at the project site during the current surveys (Appendix B); exotic landscaped areas were not studied in detail. About 50% (24) were native and the remaining 24 species were exotic. The best represented families were Poaceae (10 species) and Asteraceae (7 species).

3.4 Special Status Plant Species

No special-status plants were observed on the Meredith project site during the June 2014 site surveys, and there are no historic site records for any special status plant species onsite or within four miles of the site (CNDDB 2014).

Based on a review of CNDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001, CNPS 2014), and field surveys, a number of special status species were identified as having low potential to occur onsite (Table 2).

Due to the disturbed nature of the site, the absence of any current or historic site records, no special-status plant species are expected to occur onsite.

3.5 Wildlife overview

Wildlife at the study area consisted of common species and species associated with open, disturbed habitats. The most abundant species detected during the site visit were birds such as American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*) and house finch (*Carpodacus mexicanus*). A total of 20 wildlife species were detected during the site visits, including two reptiles, 13 bird and five mammalian species (Appendix D).

3.6 Special status wildlife species

Based on a review of CNDDB, published literature and field surveys and assessments, a number of special status wildlife species were identified as potentially occurring onsite, including some species with historic records from the project vicinity (Table 4). These are species which typically occur in native habitats that historically occurred in the project vicinity. However, due to the disturbance at the project site most of these species are unlikely to occur onsite.

All special status wildlife species with some potential to occur onsite are addressed in Table 4, those species of particular concern to wildlife agencies and those species that occur onsite and are also discussed below.

One special status wildlife species was detected during the current surveys, California horned lark (*Eremophila alpestris actia*). A second species, burrowing owl (*Athene cunicularia*), possibly occurs onsite, see below. No other special status wildlife species have been recorded at or within 4 miles of the project site in the past (CNDDB 2014).

Burrowing owls (*Athene cunicularia*) occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a yearlong resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature, they require the use of rodent or other burrows for roosting and nesting cover. They can also use pipes, culverts, and nest boxes (USFWS 2003, Haug *et al.* 1993, Zeiner *et al.* 1990).

No burrowing owls we detected during the site visit. Numerous suitable burrows were present on site and there are also several CNDDB records for burrowing owl within four miles of the site (although none from the actual site itself), (CNDDB 2014). In July 2014[3], CDFW documented several owls in the project vicinity and it is possible that these owls utilize the project site.

A few California horned lark were observed foraging onsite but no evidence of nesting onsite was detected.

The project site is located within Ontario Recovery Unit for the federally endangered Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*). However, the project site is outside of the Delhi sands flower-loving habitat mapped for that unit (USFWS 2008). No suitable habitat for the Delhi sands flower-loving fly occurs onsite and the fly is assumed absent from the project site.

There is Riversidean coastal sage scrub onsite so California gnatcatcher (*Polioptila californica californica*) could potentially occur onsite. However, the Riversidean sage scrub onsite has been extensively disturbed, via disking and mowing, for many years. In fact the scrub appears to have been mostly absent from 1994 through 2005 (Google earth aerial photographs). Recent lack of disking in this area has allowed the scrub to recover somewhat. Due to the disking the scrub currently present was of low quality and low species diversity, being dominated almost entirely by California buckwheat.

Due to the ongoing disturbance, low quality and low stature of the scrub onsite California gnatcatcher is unlikely to occur onsite.

The project site is located outside the California gnatcatcher critical habitat area (USFWS 2007).

[3] Freeburn, Kim. Personal communication, 15 July, 2014.

Table 2: Special status plant species that occurred or have the potential to occur in the Meredith project site: Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, SC = state species of concern, FP = fully protected species, none = no federal or state listing, see Appendix C for CNPS Status. Occurrence onsite: Occurs = known to occur onsite, potential = could occur due to presence of suitable habitat onsite but not detected during current survey, unlikely = probably does not occur due to limited suitable habitat onsite and not detected.

Scientific Name	Common Name	Status	Occurrence Onsite	Habitat
Abronia villosa var. aurita NYCTAGINACEAE	Chaparral sand-verbena	Fed: None State: None CNPS 1B.1	Unlikely	Annual herb occurs on sandy soils in desert dunes, coastal scrub and chaparral. Blooms from January-September from 80-1600 meters.
Ambrosia pumila ASTERACEAE	San Diego ambrosia	Fed: none State: none CNPS: 1B	Unlikely	Dry sunny sites, grasslands, disturbed areas, <500ft, blooms June-September.
Berberis nevinii BERBERDIDACEAE	Nevin's barberry	Fed: FE State: SE CNPS 1B.1	Absent	Coarse soils and rocky slopes in chaparral and gravelly wash margins in alluvial scrub. Found from 300 to 700 meters elevation.
Calochortus plummerae LILACEAE	Plummer's mariposa lily	Fed: None State: None CNPS 4.2	Unlikely	Chaparral, Foothill Woodland, Yellow Pine Forest, Coastal Sage Scrub, Valley Grassland in open rocky or sandy areas. Blooms from May-July below 1,700 meters.
Chorizanthe parryi POLYGONACEAE	Parry's spineflower	Fed: None State: None CNPS 3.2	Unlikely	Coastal scrub and chaparral in open gravelly or sandy areas. Blooms from April-June from 40-1075 meters.
Chorizanthe polygonoides var. longispina POLYGONACEAE	Long-spined spineflower	Fed: None State: None CNPS 3.2	Unlikely	Annual herb occurs in chaparral, coastal scrub, meadows and seeps. Blooms from April- June from 30-1530 meters.
Dodecahema leptoceras POLYGONACEAE	Slender horned spine flower	Fed: FE State: SE CNPS: 1B.1	Unlikely	Sandy places in sage scrub, grassland. Blooms from April-June from 200-760 meters.

Scientific Name	Common Name	Status	Occurrence Onsite	Habitat
Hemizonia pungens ssp.laevis ASTERACEAE	Smooth tarplant	Fed: none State: none CNPS: 1B	Unlikely	Grasslands below 1,200 ft
Horkelia cuneata ssp. Puberula ROSACEAE	Mesa horkelia	Fed: None State: None CNPS: 1B.1	Unlikely	Perennial herb found in dry sandy soils in the outer coast ranges in chaparral, coastal scrub, and cismontane woodland. Blooms from February through July from 70-810 meters.
Muhlenbergia californica POACEAE	California muhly	Fed: none State: none CNPS: 4.3	Unlikely	Rivers, streams, seeps, wetlands within Chaparral, Foothill Woodland, Coastal Sage Scrub, Valley Grassland. Blooms from July-Sept below 2,500 meters.
Phacelia stellaris HYDROPHYLLACEAE	Brad's phacelia	Fed: None State: None CNPS 1B.1	Unlikely	Coastal scrub and dunes in open sandy areas. Blooms from spring.
Symphyotrichum defoliatum ASTERACEAE	San Bernardino aster	Fed: None State: None CNPS 1B.2	Unlikely	Grassland and meadow habitat near water and in disturbed areas.

Table 3: Special status wildlife species that occurred or have the potential to occur in the Meredith project site. Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, CSC = California species of special concern, FP = fully protected species, CNDDB = species listed under the states CNDDB program, none = no federal or state listing. Occurrence onsite: Occurs = known to occur onsite, potential = could occur due to presence of suitable habitat onsite but not detected during current survey, unlikely = probably does not occur due to limited suitable habitat onsite and not detected.

Scientific Name	Common Name	ESA/CESA Status	Other Status	Occurrence onsite	Habitat/comments
Invertebrates					
Rhaphiomidas terminatus abdominalis	Delhi Sands Flower-Loving Fly	Fed: FE State: None	CNDDB Ranked	Unlikely, suitable soils absent	Restricted to the Delhi Sands formation, on ancient inland sand dunes.
Amphibians					
Spea hammondii	Western spadefoot	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely, no pools present	grassland, open habitats with sandy or gravelly soil; temporary rainpools for breeding
Reptiles					
Anniella pulchra pulchra	silvery legless lizard	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	Sandy, loose loamy soils in chaparral, oak woodland, coastal sage scrub
Phrynosoma blainvillii	coast horned lizard	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	sandy washes and open sandy areas within coastal sage scrub, grassland, chaparral, oak and riparian woodland
Salvadora hexalepis virgultea	Coast patch-nosed snake	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	habitat generalist, associated with brushy or shrubby vegetation
Aspidoscelis hyperytha	orange-throated whiptail	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	open, sparsely covered land, often with well-drained sandy or loose soils in coastal sage scrub, grassland, chaparral, oak woodland and riparian habitats
Aspidoscelis tigris stejnegeri	coastal whiptail	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	Semiarid habitats with open sparsely vegetated areas, scrub, chaparral, grassland and woodland habitats
Birds					
Circus cyaneus	northern harrier	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Potential, foraging only	grassland, marshes, agricultural land, open areas in scrub and chaparral; ground or shrub nesting

Elanus leucurus	white-tailed kite	ESA: None CESA: None	DFG: FP CNDDB Ranked	Potential, foraging only	forages in grasslands; nests and roosts in oak and riparian woodland
Accipiter striatus	sharp-shinned hawk	ESA: None CESA: None	DFG: WL CNDDB Ranked	Potential, foraging only	wide variety of habitats used by wintering and migrating birds, but mostly associated with woodland and scrubland; breeds in mountains, does not breed in southern California
Accipiter cooperi	Cooper's hawk	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Potential, foraging only	mature forests, open woodlands, wood edges, river groves, riparian woodland
Aquila chrysaetos	golden eagle	ESA: None CESA: None	DFG: CSC, FP FW: BCC CNDDB Ranked	Potential, foraging only	Open mountains, foothills, plains, open country
Buteo swainsoni	Swainson's hawk	ESA: None CESA: None	FW: BCC CNDDB Ranked	Potential, foraging only	prairies, grasslands, more widespread in migration
Buteo regalis	ferruginous hawk	ESA: None CESA: None	DFG: WL FW: BCC CNDDB Ranked	Potential, foraging only	plains, prairies, grasslands, does not breed in southern California
Falco columbarius	merlin	ESA: None CESA: None	DFG: WL CNDDB Ranked	Potential, foraging only	nests in open woodlands, savanna, does not breed in southern California, woodlands, open areas in winter, migration
Falco peregrinus anatum	American peregrine falcon	ESA: SE CESA: None	DFG: FP FW: BCC CNDDB Ranked	Potential, foraging only	nest on cliffs or rock outcroppings, usually near water; forages over open country (grassland, scrub, marshes)
Falco mexicanus	prairie falcon	ESA: None CESA: None	DFG: WL FW: BCC CNDDB Ranked	Potential, foraging only	open arid country, grasslands, more widespread in winter
Athene cunicularia	burrowing owl	ESA: None CESA: None	DFG: CSC FW: BCC CNDDB Ranked	Potential	grasslands, farmland and other open habitats
Asio flammeus	short-eared owl	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Potential, foraging only	grasslands, open habitats
Lanius ludovicianus	loggerhead shrike	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Potential, foraging only	grassland, scrub and other open habitats with perching structures; nests in trees and shrubs
Eremophila alpestris actia	California horned lark	ESA: None CESA: None	DFG: WL CNDDB Ranked	Occurs	Open areas with little or no ground cover, such as grassland or ruderal vegetation
Polioptila californica californica	California gnatcatcher	Fed: FT State: none	DFW: SSC FW: BCC CNDDB Ranked	Unlikely	coastal sage scrub
Mammals					
Macrotus californicus	California leaf-nosed bat	ESA: None CESA: None	DFG: CSC WBWG: H	Potential, foraging only	roosts in caves or old mines

Corynorhinus townsendii	Western big-eared bat	ESA: None CESA: None	DFG: CSC WBWG: H	Potential, foraging only	roosts in caves, old mines or buildings
Myotis thysanodes	fringed myotis	ESA: None CESA: None	DFG: CSC WBWG: H	Potential, foraging only	caves, old buildings
Myotis volans	long-legged myotis	ESA: None CESA: None	DFG: CSC WBWG: H	Potential, foraging only	buildings, pockets and crevices in rocks
Myotis yumanensis	Yuma myotis	ESA: None CESA: None	DFG: CSC WBWG: LM	Potential, foraging only	caves, tunnels and buildings in arid areas
Eumops perotis californicus	California mastiff bat	ESA: None CESA: None	DFG: CSC WBWG: H	Potential, foraging only	widespread forager; roosts in cliffs and buildings
Perognathus longimembris brevinasus	Los Angeles little pocketmouse	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	occurs in lower elevation scrub and grassland with open ground and fine, sandy soil
Chaetodipus fallax fallax	Northwestern San Diego pocket Mouse	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	occurs in open scrub and grassland areas, in the valleys and foothills
Onychomys torridus ramona	southern grasshopper mouse	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	annual grassland and coastal sage scrub
Neotoma lepida intermedia	San Diego desert woodrat	Fed: none State: none	DFW: SSC CNDDB Ranked	Unlikely due to site disturbance	cactus patches and rock outcroppings in coastal sage scrub
Lepus californicus bennettii	San Diego black-tailed jackrabbit	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	coastal sage scrub, grassland and chaparral
Taxidea taxus	American badger	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely due to site disturbance	widespread in natural habitats

3.7 Wildlife movement corridors and linkages

The terms "wildlife corridors" and "linkages" are based upon fundamental ecological concepts, but can be easily misinterpreted because: 1) universally accepted definitions of these terms have not been established; 2) each term can be interpreted using different time scales (i.e. daily, seasonal, annual and evolutionary) and spatial scales (i.e. microclimate, local, community, and landscape) which changes their meaning; 3) the areas and values change from species to species; and, 4) the understanding of how these processes work is on-going and conclusions are subject to revision. The following definitions are intended to provide a working understanding of corridors and linkages and are summarized from several sources (SCWP 2003, USCA9D 1990, Barrett and Livermore 1983, Beier 1993).

Wildlife corridor - Wildlife corridors are areas which animals can use to move from one patch of suitable habitat to another. These areas would be expected to have the least habitat fragmentation relative to surroundings areas. A wildlife corridor establishes connectivity for animals to move, live, reproduce and respond to functional ecological processes during the course of a year to several years. The quality and functionality of a particular wildlife corridor varies from species to species.

Wildlife crossings are generally small, narrow wildlife corridors that allow wildlife to pass through an obstacle or barrier such as a roadway to reach another patch of habitat. Wildlife crossings are manmade and include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over or under highways.

Both wildlife crossings and wildlife corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities.

Linkages – Linkages are areas that provide for long term movement or interaction of wildlife to maintain natural evolutionary and ecological patterns. Linkages are fundamental for gene flow and large scale ecological processes. These areas are usually defined by the zones of "least resistance" for the genes of a given species to move or "flow" between core reserve populations.

No wildlife corridors or linkages are known at the Meredith project site. Wildlife could potentially use the onsite wash and culverts for movement; however the entire site is surrounded by existing roads and development which would impede any wildlife movement. It is unlikely that the site is of any significance to wildlife movement.

3.8 Wetlands and streambeds

A formal jurisdictional delineation was not conducted onsite; however a general assessment of onsite drainage features was conducted as part of the biological assessment.

One ephemeral drainage occurred within the project site, at the eastern end of the site (Figure 6). The drainage typically conveys water during and immediately following large storm events. The rest of the time the drainage is completely dry, except for small areas receiving urban run-off

The drainage ran in a north/south orientation and appeared to start at the upper end of the site flowing south to a culvert under the I-10 freeway. The drainage was narrow (5-20 feet wide) and apparently had artificial banks. The substrate was sandy and was dry at the time of the site survey, except immediately south of Inland Empire Boulevard where an inlet pipe supplied urban run-off.

Near the inlet pipe at Inland Empire Boulevard the channel contained nut sedges and exotic non-native trees. Otherwise the channel was mostly devoid of vegetation and any vegetation that was present consisted of non-native upland weeds.

No wetlands or vernal pools occur onsite.

Figure 6: Location of the drainage at the Meredith project site (in blue).

4.0 BIOLOGICAL CONSTRAINTS

There are a number of potential biological constraints at Meredith project site. Any significant impacts to these biological constraints that would result from the proposed project would require appropriate mitigation.

Significance of impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in California Environmental Quality Act (CEQA), Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established the following policy of the State of California:

> *Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to the CEQA Guidelines, (Section 15064.7, Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA Guidelines provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..*

Therefore, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project;

> Appendix G of the 2004 State CEQA Guidelines indicate that a project may be deemed to have a significant effect on the biological resources if the project is likely to:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.1 List of the potential biological constraints at the Meredith project site

1. Special status wildlife species present onsite; California horned lark and burrowing owl
2. Nesting birds,
3. Areas subject to the Corps 404 programs, California Regional Water Quality Control Board 401 and CDFW jurisdiction under the 1600 program.

4.2 Permits and consultations likely required

As a result of these potential biological constraints, any proposed project at the Meredith project would require the following permits/consultations/co-ordination;

California Environmental Quality Act (CEQA);
CEQA Document

Federal Migratory Bird Treaty Act of 1918 (MBTA);

The MBTA governs the taking and killing of migratory birds, their eggs, parts, and nests and prohibits the take of any migratory bird, their eggs, parts, and nests. No take of migratory birds is allowed under this act. Construction work must comply with the MBTA.

U.S. Corps of Engineers;

404 permit required

Regional Water Quality Control Board;

401 certification required

California Department of Fish and Game;

1603 agreement required

4.3 Recommended mitigation measures

1. Avoidance of Nesting Migratory Birds**:** If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by the City and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.

2. Burrowing Owl Avoidance: Breeding season avoidance measures for the burrowing owl, including but not limited to those that follow shall be implemented. A pre-construction survey for resident burrowing owls shall be conducted by a qualified Project Biologist within 30 days prior to construction activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site will be resurveyed for owls.

Pre-construction survey methodology shall be based on Appendix D (Breeding and Non-breeding Season Surveys and Reports) of the CDFW Staff Report on Burrowing Owl Mitigation (CDFW) March 7, 2012 (CDFW Burrowing Owl Mitigation Staff Report). Results of the pre-construction survey shall be provided to CDFW and the City. If the pre-construction survey does not identify burrowing owls on the Project site, then no further mitigation shall be required. If burrowing owls are found to be utilizing the Project site during the pre-construction survey, measures shall be developed by the Project Biologist in coordination with CDFW to avoid impacting occupied burrows during the nesting period. These measures shall be based on the most current CDFW protocols and would minimally include establishment of buffer setbacks from occupied burrows and owl monitoring during Project construction activities.

3. Burrowing Owl Passive Exclusion: During the non-breeding season (September 1 through January 31), if burrows occupied by migratory or non-migratory resident burrowing owls are detected during a pre-construction survey, then burrow exclusion and/or closure may be used to passively exclude owls from those burrows. Burrow exclusion and/or closure shall only be conducted by the Project Biologist in consultation and coordination with CDFW employing incumbent CDFW guidelines.

4. Mitigation for Displaced Owls: In consultation with the City, Project Applicant, Project Biologist, and CDFW, and consistent with mitigation strategies outlined in the CDFW Burrowing Owl Mitigation Staff Report, a mitigation plan shall be developed for the "take" of any owls displaced through Project construction activities. Strategies may include, but are not limited to participation in the permanent conservation of off-site habitat replacement area(s), and/or purchase of available burrowing owl conservation bank credits.

5. Prior to the issuance of any grading permits and prior to any physical disturbance of any possible jurisdictional areas, the applicant shall obtain a Regional Board 401 Certification, or a written waiver of the requirement for such an agreement or permit, from the California Regional Water Quality Control Board. Written verification of such a permit or waiver shall be provided to the City of Ontario Planning Department.

6. Prior to the issuance of any grading permits and prior to any physical disturbance of any possible jurisdictional areas, the applicant shall obtain a stream bed alteration agreement or permit, or a written waiver of the requirement for such an agreement or permit, from the California Department of Fish and Wildlife. Written verification of such a permit or waiver shall be provided to the City of Ontario Planning Department.

7. Prior to the issuance of any grading permits and prior to any physical disturbance of any possible jurisdictional areas, the applicant shall obtain a 404 permit, or a written waiver of the requirement for such an agreement or permit, from the U.S. Army Corps of Engineers. Written verification of such a permit or waiver shall be provided to the City of Ontario Planning Department.

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6.0 APPENDICES

6.1 Appendix A: Weather data

Public information national weather service San Diego CA; 2013-2014 rainfall season in review, http://www.nws.noaa.gov/climate

A drier than normal rainfall season ended on 30 June 2014. During the fall and winter all stations were below average. The late spring was average. All of California ended up below normal for rainfall totals, with an average for the region of approximately 38% the normal rainfall.

Areas	2013-2014 Total	Normal Total	% of Normal
Santa Barbara	6.49	18	37
Lancaster	3.91	5	77
downtown Los Angeles	5.99	15	41
Long Beach Airport	4.43	13	35
John Wayne Airport	3.52	13	28
Fullerton	4.77	15	32
Riverside	2.71	10	27
Oceanside Airport	4.19	11	40
San Diego	5.01	10	50
Palm Springs	0.93	5	17

UPLAND, CALIFORNIA (049157)

Period of Record Monthly Climate Summary
Period of Record : 1/ 1/1903 to 9/30/1959

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	61.8	63.7	65.9	70.3	73.9	81.4	89.6	89.2	87.2	79.2	70.2	64.3	74.7
Average Min. Temperature (F)	39.9	41.1	42.7	45.6	48.0	51.8	57.3	57.7	56.7	51.1	45.6	41.7	48.3
Average Total Precipitation (in.)	4.93	4.32	3.89	1.80	0.59	0.11	0.02	0.09	0.33	0.98	1.24	4.16	22.44
Average Total SnowFall (in.)	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 98% Min. Temp.: 99.1% Precipitation: 99.6% Snowfall: 99.6% Snow Depth: 99.1%

6.2 Appendix B: Plant species detected at the Meredith project site, 2014.

SCIENTIFIC NAME (SYNONYM)	COMMON NAME
PINACEAE	**PINE FAMILY**
*Pinus sp.**	Exotic Pine
ANGIOSPERMAE	**FLOWERING PLANTS**
AIZOACEAE	**CARPET-WEED FAMILY**
*Mesembryanthemum sp.**	Iceplant
AMARANTHACEAE	**AMARANTH FAMILY**
*Amaranthus albus**	Tumbling Pigweed
ASTERACEAE	**SUNFLOWER FAMILY**
Ambrosia psilostachya	Western Ragweed
Baccharis salicifolia	Mulefat
Conyza canadensis	Common Horseweed
Encelia californica	California Bush Sunflower, California Brittlebush
Helianthus annuus	Western Sunflower
Heterotheca grandiflora	Telegraph Weed
*Lactuca serriola**	Prickly or Wild Lettuce
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia intermedia (= A. menziesii)	Common Fiddleneck
Cryptantha intermedia	Common Cat's-Eyes
BRASSICACEAE	**MUSTARD FAMILY**
Hirschfeldia incana	Shortpod or Summer Mustard
*Sisymbrium irio**	London Rocket
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Chenopodium album (= C. missouriense)*	Lamb's Quarter
*Chenopodium murale**	Nettle-Leaved Goosefoot
*Salsola tragus**	Russian Thistle
EUPHORBIACEAE	**SPURGE FAMILY**
Croton californicus	California Croton
Croton setiger (= Eremocarpus setigerus)	Doveweed, Turkey Mullein
Euphorbia albomarginata (= Chamaesyce a.)	Rattlesnake Spurge
FABACEAE	**LEGUME FAMILY**
Acmispon americanus var. americanus (= Lotus purshianus var. purshianus)	American Lotus
Acmispon glaber var. glaber (= Lotus scoparius var. scoparius)	Coastal Deerweed, Coastal Deer Broom, California Broom
*Medicago polymorpha**	California Burclover
*Melilotus indicus**	Yellow Sweet-Clover
GERANIACEAE	**GERANIUM FAMILY**
*Erodium cicutarium**	Red-Stemmed Filaree
LAMIACEAE	**MINT FAMILY**
*Marrubium vulgare**	Common Horehound
MALVACEAE	**MALLOW FAMILY**
*Malva parviflora**	Cheeseweed
MYRTACEAE	**MYRTLE FAMILY**
Eucalptus sp.	Gum Tree

ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Oenothera californica ssp. californica	California Evening Primrose
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Veronica anagallis-aquatica**	Great Water Speedwell
PLATANACEAE	**SYCAMORE FAMILY**
Platanus racemosa	California Sycamore, Aliso
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California Buckwheat
Eriogonum gracile var. gracile	Slender Buckwheat
SALICACEAE	**WILLOW FAMILY**
Populus fremontii ssp. fremontii	Western Cottonwood
Salix lasiolepis	Arroyo Willow
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii (= D. meteloides)	Western Jimsonweed
*Nicotiana glauca**	Tree Tobacco
Cyperus sp.	nutsedge
POACEAE	**GRASS FAMILY**
*Avena fatua**	Wild Oat
Bromus arizonicus sp.	Chess
*Bromus diandrus**	Common Ripgut Grass
*Bromus hordeaceus**	Soft Chess
*Bromus madritensis ssp. rubens**	Foxtail Chess or Red Brome
Festuca myuros (= Vulpia m. var. hirsuta, V. m. var. m.)*	Foxtail or Rattail Fescue
*Hordeum murinum ssp. leporinum**	Hare Barley or Foxtail Barley
*Lamarckia aurea**	Goldentop
*Pennisetum setaceum**	African Fountain Grass
*Schismus barbatus**	Mediterranean Schismus

KEY: Asterisk (*) = non-native species; $^{+}$ = sensitive species; Sources: Taxonomy - Hickman (1993), http://ucjeps.berkeley.edu/interchange.html, November 2005; Common names and non-native species designations according to Roberts (1998), then Hickman (1993)

6.3 Appendix C: California Native Plant Society Categories

CNPS Status based on California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001):

List 1A: Plants Presumed Extinct in California
The plants of List 1A are presumed extinct because they have not been seen or collected in the wild for many years. Although most of them are restricted to California, a few are found in other states as well. There is a difference between "extinct" and "extirpated." A plant is extirpated if it has been locally eliminated. It may be doing quite nicely elsewhere in its range. All of the plants constituting List 1A meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 1B: Plants Rare, Threatened or Endangered in California and Elsewhere
The plants of List 1B are rare throughout their range. All but a few are endemic to California. All of them are judged to be vulnerable under present circumstances or to have a high potential for becoming so because of their limited or vulnerable habitat, their low numbers of individuals per population (even though they may be wide ranging), or their limited number of populations. All of the plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 2: Plants Rare, Threatened or Endangered in California, But More Common Elsewhere
Except for being common beyond the boundaries of California, the plants of List 2 would have appeared on List 1B. Based on the "Native Plant Protection Act," plants are considered without regard to their distribution outside the state. All of the plants constituting List 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 3: Plants About Which We Need More Information—A Review List
The plants that comprise List 3 are an assemblage of taxa that have been transferred from other lists or that have been suggested for consideration. The necessary information that would assign most to a sensitivity category is missing.

List 4: Plants of Limited Distribution—A Watch List
The plants in this category are of limited distribution in California and their vulnerability or susceptibility to threat appears low at this time. While these plants cannot be called "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Many of them may be significant locally. Should the degree of endangerment or rarity of a plant change, they will be transferred to a more appropriate list.

Threat Code Extensions and their meanings:

.1- Seriously endangered in California

.2- Fairly endangered in California

.3- Not very endangered in California

6.4 Appendix D: Wildlife species detected at the Meredith project site, 2014.

FAMILY/SPECIES NAME	COMMON NAME
REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**NORTH AMERICAN SPINY LIZARDS & RELATIVES**
Sceloporus occidentalis	Western Fence Lizard
Uta stansburiana	Side-Blotched Lizard
AVES	**BIRDS**
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	Turkey Vulture
ACCIPITRIDAE	**HAWKS, OLD WORLD VULTURES & HARRIERS**
Buteo jamaicensis	Red-Tailed Hawk
FALCONIDAE	**CARACARAS & FALCONS**
Falco sparverius	American Kestrel
COLUMBIDAE	**PIGEONS & DOVES**
Zenaida macroura	Mourning Dove
TYRANNIDAE	**TYRANT FLYCATCHERS**
Tyrannus verticalis	Western Kingbird
CORVIDAE	**JAYS, MAGPIES & CROWS**
Corvus brachyrhynchos	American Crow
ALAUDIDAE	**LARKS**
Eremophila alpestris actia[+]	California Horned Lark
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	Cliff Swallow
Hirundo rustica	Barn Swallow
MIMIDAE	**MOCKINGBIRDS & THRASHERS**
Mimus polyglottos	Northern Mockingbird
ICTERIDAE	**BLACKBIRDS, ORIOLES & ALLIES**
Quiscalus mexicanus	Great-Tailed Grackle
FRINGILLIDAE	**FRINGILLINE FINCHES**
Carpodacus mexicanus	House Finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus	House Sparrow
LEPORIDAE	**RABBITS & HARES**
Sylvilagus audubonii	Desert Cottontail
SCIURIDAE	**SQUIRRELS, CHIPMUNKS & MARMOTS**
Spermophilus beecheyi	California Ground Squirrel
Thomomys bottae	Botta's Pocket Gopher
MURIDAE	**MICE, RATS & VOLES**
Peromyscus sp.	Mouse
CANIDAE	**FOXES, WOLVES & RELATIVES**
Canis latrans	Coyote

Sources:

Invertebrates: Powell and Hogue (1979) and Hogue 1993.
Butterflies: NatureServe, http://www.natureserve.org/explorer/
Fish: NatureServe, http://www.natureserve.org/explorer/
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6.5 Appendix E: Meredith site photographs 2014.

Photograph 1: Northeastern portion of site adjacent commercial development at North Archibald Avenue, looking west.

Photograph 2: Northwest corner of site, adjacent culverts, looking south.

Photograph 3: Central portion of site, Inland Empire Boulevard to right, looking west.

Photograph 4: Western portion of site looking west.

Photograph 5: Central portion of site, adjacent culverts, looking south.

Photograph 6: Central portion of site, looking south along culverts.

Photograph 7: Southeastern area of site, adjacent drainage, looking south.

Photograph 8: Southeastern area of site, looking southeast.