David Magney Environmental Consulting

BIOLOGICAL RESOURCES ASSESSMENT FOR THE MALIBU JEWISH CENTER & SYNAGOGUE 24855 PACIFIC COAST HIGHWAY MALIBU, CALIFORNIA

Prepared for:

CITY OF MALIBU

On behalf of:

DAVID LAWRENCE GRAY ARCHITECTS

September 2014, Updated September 2017

DMEC Mission Statement

To provide quality environmental consulting services with integrity that protect and enhance the human and natural environment

DMEC

Biological Resources Assessment for the Malibu Jewish Center & Synagogue 24855 Pacific Coast Highway Malibu, California

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SECTION I. INTRODUCTION

BACKGROUND

David Magney Environmental Consulting (DMEC) was contracted to conduct this biological resources assessment and impacts analysis for the subject property and proposed project at the request of Mark Meyer of David Lawrence Gray Architects, project architect. The project site and grading plans were prepared by David Lawrence Gray Architects, of Los Angeles, California.

PROJECT PURPOSE AND SCOPE

The proposed project involves the demolition of existing structures and construction of a new two-story school with basement garage and chapel facility. The parcel is approximately 4.63 acres in size (Los Angeles County parcel data indicates an area of 202,078 square feet). The total footprint of the structures to be built is approximately 11,167 sf (0.256 acre). The school building footprint is almost entirely within the footprint of the existing structures, and the chapel footprint is entirely within a previously approved CDP.

PROJECT LOCATION

The project site is located in the City of Malibu in western Los Angeles County (Figure 1 – General Project Site Location). The Malibu Jewish Center & Synagogue (project site) is located at 24855 Pacific Coast Highway (PCH), Malibu, Los Angeles County, California (AIN 4458-032-027). The project site is east of Corral Canyon Road, and between PCH and Puerco Canyon Creek, as shown on Figure 2 – Project Site and Project Footprint. The site is in the Malibu Beach Quadrangle (USGS 7.5-minute Series) at the approximate geographic coordinates of 34.034°N latitude and -118.717°W longitude, located in the Topanga Malibu Sequit Mexican Land Grant, at the logical location of SW¼ NE¼ Section 1 T3S R18W, San Bernardino Base Line, as illustrated on Figure 1.

The Malibu Jewish Center & Synagogue is partially in the Puerco Canyon watershed at an elevation of approximately 160 feet (50 meters) above mean sea level. The parcel is wedge-shaped trending east-west, as illustrated on Figure 1 and Figure 2. The project site, and all of Puerco Canyon, is within the Coastal Zone. The project site and the proposed facilities are illustrated on Figure 2.

Figure 1 – General Project Site Location

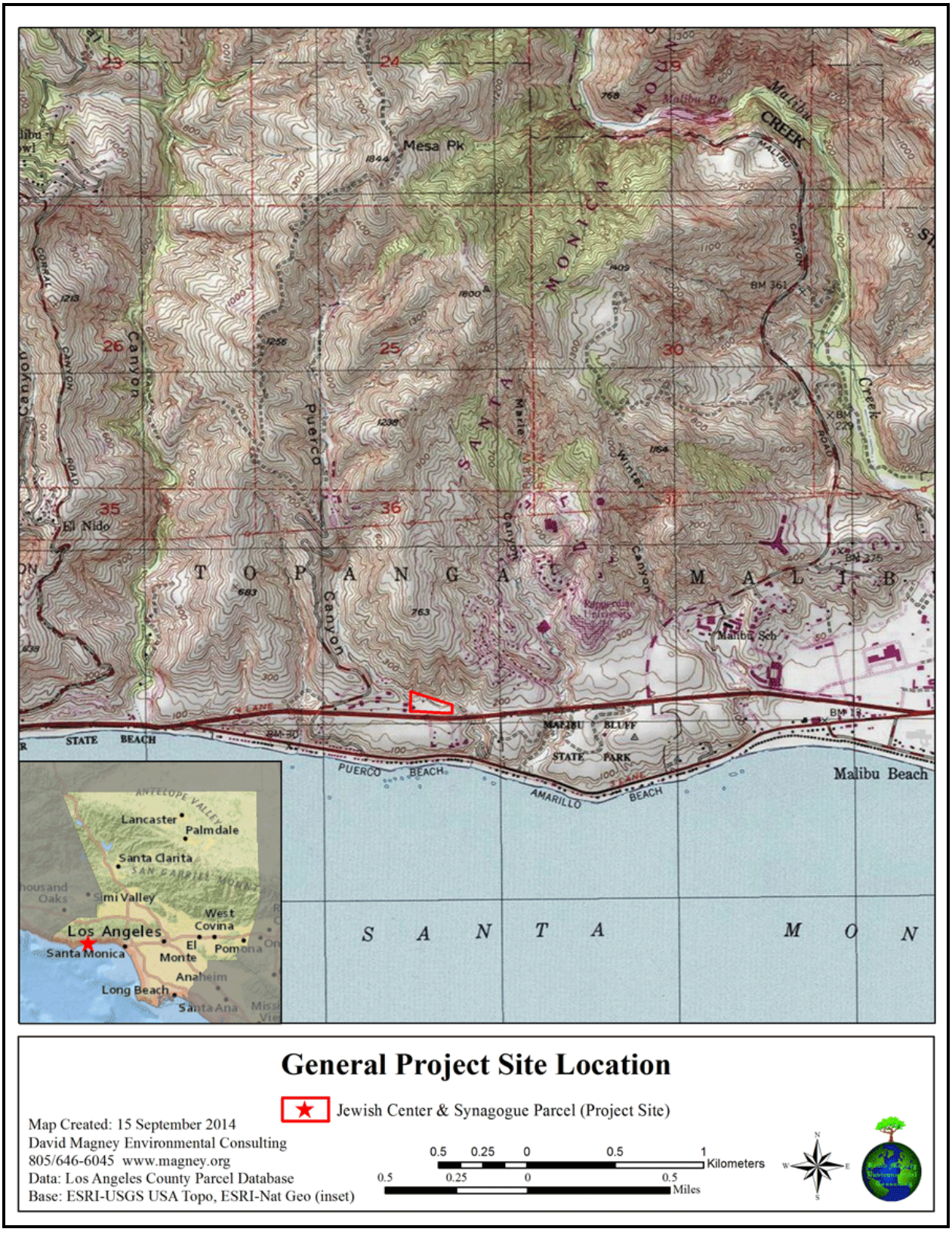


Figure 2 – Project Site and Project Footprint

SECTION II. EXISTING CONDITIONS

METHODS

DMEC biologist Evan Lashly conducted a survey of the project site on 28 August 2014, DMEC biologists David Magney and Evan Lashly conducted a supplementary survey and tree assessment on the project site on 3 September 2014. Mr. Magney conducted a subsequent survey of the site on 28 February 2017.

Surveys were biotic in nature. The main objectives of surveys were to (1) identify and detect as many plant and wildlife species as possible onsite, (2) determine the potential for special-status wildlife and botanical resources to occur onsite, (3) classify and map all vegetation communities onsite, and (4) assess the condition of the general habitats making up the project site. The project site was walked over to account for as many taxa as possible onsite. A Global Positioning System (GPS) unit (Garmin GPSMAP 62stc) was carried to track survey paths and to mark waypoints of findings of interest. Photographs were taken of findings of interest, the various habitats present onsite, and all taxa encountered (when possible) using a Nikon CoolPix P80 and Canon EOS 4Ti digital cameras.

Wildlife observations were aided by the use of binoculars (Nikon Monarch 8x42 and Nikon ProStaff 10x25). Relevant plant vouchers were collected, identified, catalogued, and will be deposited into a public herbarium (UCSB[1]) upon completion of the project. The flora, fauna, and habitats observed are described in the following sections. The botanical surveys were floristic in nature; however, they did not strictly follow CNPS and CDFW survey protocols since fields were not conducted when most vascular plants (primarily annual species) were detectable and/or identifiable. For the Santa Monica Mountains/Malibu region, botanical surveys are recommended to be conducted during the spring and early summer months.

DMEC conducted a search of CDFW's CNDDB RareFind5 (CDFW 2014) for the Malibu Beach, California USGS Quadrangle (in which the project site is found), and for the five surrounding quadrangles, including Calabasas, Canoga Park, Point Dume, Thousand Oaks, and Topanga. This search was updated by an examination of the current (2014) version of the CNDDB GIS database. DMEC conducted this database search to account for special-status species tracked by CNDDB in the area and with potential to occur at the project site.

DMEC also conducted a search of CNPS's *Inventory of Rare and Endangered Plants of California* (2014 and 2017) to account for CNPS-listed plants not tracked on the CNDDB database with potential to occur in the vicinity of the proposed project site. The CNDDB Special Animals List (CNDDB 2014) was also referenced to account for other listed animal species.

DMEC examined existing Fire Hazard Severity Zones as mapped by CalFire (2014) and determined the history of wildfire at the project site through examination of the U.S. Forest Service dataset Fire Return Interval Departure (USFS 2012).

[1] UCSB – Herbarium at the University of California, Santa Barbara, Cheadle Center for Biodiversity and Ecological Restoration.

PHYSICAL CONDITION

The project site is located at the base of the Malibu foothills, approximately 1,000 feet north of the Pacific Ocean. The project parcel is adjacent to the PCH and situated on the north side of the highway. Puerco Canyon and Puerco Canyon Creek run south and bend eastward just north of the project site, entering the parcel on the northwest corner and exiting on the east end, and passing through the northern section of the parcel. Puerco Canyon Creek bends southward again just east of the project site before passing under the PCH and into the Pacific Ocean.

The project site sits atop the ridge just south of Puerco Canyon Creek, with most of the developed area draining southward towards PCH and the remainder draining into Puerco Canyon. The proposed project footprint is situated directly atop the ridge, in a largely artificially flattened area due to development. Just to the north of the proposed project footprint, a north facing slope of varied steepness and dominated by mixed Oak Woodland drops approximately 20 vertical feet to the creek bottom, which is dominated by riparian vegetation, both native and non-native. North of the creek bottom a south-facing slope that is dominated by Coastal Sage Scrub rises again.

The soils of the project site consist of Calcic Argixerolls (in the creek bottom and north of the creek) and Danville-Urban Land Complex (atop the ridge at and south of the proposed project footprint, NRCS 2014). Calcic Argixerolls are well drained soils with high runoff potential derived from weathered calcareous sandstone. Danville-Urban Land Complex is a complex of urban uses with well drained soils with high runoff potential, derived from metavolcanics and/or sedimentary rock.

The project site exists within a Fire Hazard Severity Zone ranked "Very High", by CalFire (2014). According to the U.S. Forest Service dataset Fire Return Interval Departure (USFS 2012), the project site burned in 1985, 1993, and 1995 in the Piuma, Old Topanga, and Calabasas fires, respectively. During the 2007 Corral Fire the project site remained unburned, approximately 1 mile east of the fire's east most extent. DMEC believes that the dense stand of Giant Reed (*Arundo donax*) present in the creek bottom onsite contributes significantly to fire fuel load and hazard potential.

FLORA

A total of thirty-eight (38) vascular plant species were observed onsite. Of these, twenty-four (24, or 61%) of the vascular plants are native species and fourteen (14, or 39%) are nonnative or exotic species, excluding landscape ornamentals. The proportions of native and nonnative taxa onsite are dissimilar to the 75% native: 25% nonnative for other regions of California and for the entire flora of California (Hickman 1993).

Two (2) special-status species were observed: Southern California Black Walnut (*Juglans californica*, CNPS list 4.2) and Plummer's Baccharis (*Baccharis plummerae* ssp. *plummerae*, CNPS list 4.3). Southern California Black Walnut is also tracked by the CNDDB as a sensitive habitat when occurring in woodlands. The 38 vascular plants that were observed are listed below in Table 1 – Plant Species Observed at the Project Site. Additional plant species are expected to occur onsite but were not detectable during the late summer survey dates. However, since the proposed development is restricted to already developed or previously disturbed areas of the

parcel, the project is not likely to displace undetected plants occurring on the north-facing slope above Puerco Canyon Creek.

Table 1 – Plant Species Observed at the Project Site

Scientific Name[2]	Common Name	Habit[3]	WIS[4]	Family[5]
Artemisia californica	California Sagebrush	S	-	Asteraceae
Artemisia douglasiana	Mugwort	PH	FAC	Asteraceae
Arundo donax *	Giant Reed	PG	FACW	Poaceae
Baccharis pilularis ssp. *consanguinea*	Coyote Brush	S	(FAC)	Asteraceae
Baccharis plummerae* ssp. *plummerae	**Plummer's Baccharis**	S	-	Asteraceae
Bromus diandrus ssp. *diandrus**	Ripgut Brome	AG	-	Poaceae
Carpobrotus chilensis *	Sea Fig	PH	FACU	Aizoaceae
Chenopodium album *	Lambsquarters	AH	FACU	Chenopodiaceae
Cortaderia cf. *jubata.* *	Pampas Grass	AG	(FAC)	Poaceae
Distichlis spicata	Saltgrass	PG	FACW	Poaceae
Elymus condensatus	Giant Wildrye	PG	-	Poaceae
Eriogonum cinearum	Coastal Buckwheat	S	-	Polygonaceae
Euphorbia terracina var. *terracina**	False Caper	PH	-	Euphorbiaceae
Foeniculum vulgare *	Sweet Fennel	PH	-	Apiaceae
Hazardia squarrosa var. ?	Sawtooth Goldenbush	S	-	Asteraceae
Heteromeles arbutifolia	Toyon	S/T	-	Rosaceae
Heterotheca grandiflora	Telegraph Weed	AH	-	Asteraceae
Hirschfeldia incana *	Summer Mustard	BH	-	Brassicaceae
Isocoma menziesii var. *vernonioides*	Coastal Goldenbush	S	-	Asteraceae
Juglans californica	**Southern California Black Walnut**	T/S	FAC	Juglandaceae
Malacothrix saxatalis var. *tenuifolia*	Tenuate-leaved Cliff-aster	PH	-	Asteraceae
Malosma laurina	Laurelleaf Sumac	S	-	Anacardiaceae
Malva parviflora *	Cheeseweed	AH	-	Malvaceae
Myoporum laetum *	Lollypop Tree	S/T	FACU	Scrophulariaceae
Nicotiana glauca *	Tobacco Tree	S/T	FAC	Solanaceae
Pennisetum clandestinum *	Kikuyu Grass	PG	-	Poaceae
Platanus racemosa var. *racemosa*	Western Sycamore	T	FAC	Platanaceae
Quercus agrifolia var. *agrifolia*	Coast Live Oak	T	-	Fagaceae
Rhamnus ilicifolia	Hollyleaf Redberry	S	-	Rhamnaceae

[2] * = Introduced plant species that have become naturalized. **Bold** typeface indicates special-status species. Scientific names of the plant species follow *The Jepson Manual* 2nd Edition (Baldwin et al. 2012) and Flora of North America Committee (1993+). Brackets [ ] indicate updated nomenclature, with old name in brackets.

[3] Habit definitions: AG = annual graminoid; AH = annual herb; AV = annual vine; PG = perennial graminoid; PH = perennial herb; PV = perennial vine; S = shrub; T = tree.

[4] WIS = Wetland Indicator Status. The following code definitions are according to Lichvar et al. (2014):
OBL = obligate wetland species, occurs almost always in wetlands (>99% probability).
FACW = facultative wetland species, usually found in wetlands (67-99% probability).
FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-66% probability).
FACU = facultative upland species, usually found in nonwetlands (67-99% probability).
UPL = obligate upland species in this region (99% probability), occurs in wetlands in another region
NI = no indicator status has been assigned due to a lack of information.
+ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats.
* = tentative assignment to that indicator status by Lichvar et al. (2014).
( ) = Parentheses indicate a wetland status suggested by David L. Magney based on extensive field observations.

[5] Family taxonomy follows Flora of North America Committee (1993+).

Scientific Name[2]	Common Name	Habit[3]	WIS[4]	Family[5]
Rhus integrifolia	Lemonade Berry	S	-	Anacardiaceae
Ricinus communis *	Castor Bean	S	FACU	Euphorbiaceae
Rubus ursinus	California Blackberry	V	FAC	Rosaceae
Salix lasiolepis var. *lasiolepis*	Arroyo Willow	S/T	FACW	Salicaceae
Salsola tragus *	Tumbleweed	AH	FACU	Chenopodiaceae
Salvia mellifera	Black Sage	S	-	Lamiaceae
Symphoricarpos cf. *albus* var. *laevigatus*	Snowberry	PH	-	Caprifoliaceae
Stipa miliaceae *	Smilo Grass	PG	(FACU)	Poaceae
Toxicodendron diversilobum	Western Poison Oak	V/S	FACU	Anacardiaceae

FAUNA

A total of sixteen (16) vertebrate wildlife species were observed onsite, including one (1) reptile, ten (10) birds, and five (5) mammals. Twelve (12) invertebrate species were found, including one (1) mollusk and eleven (11) insects, some of which are unidentified. The twenty-eight (28) total species observed are listed below in Table 2 – Wildlife Species Observed at the Project Site.

Table 2 – Wildlife Species Observed at the Project Site

Scientific Name[6]	Common Name	Evidence
Reptiles		
Sceloporus occidentalis	Western Fence Lizard	Observed
Birds		
Calypte anna	Anna's Hummingbird	Observed
Melozone crissalis	California Towhee	Observed
Cathartes aura	Turkey Vulture	Observed
Psaltriparus minimus	Bushtit	Observed
Chamaea fasciata	Wrentit	Detected (Call)
Haemorhous mexicanus	House Finch	Observed
Aphelocoma californica	Western Scrub Jay	Observed
Corvus brachyrhynchos	Common Crow	Observed
Sayornis nigricans	Black Phoebe	Observed
Zenaida macroura	Mourning Dove	Observed
Mammals		
Urocyon littoralis	Gray Fox	Detected (Scat)
Canis latrans	Coyote	Detected (Scat)
Thomomys bottae	Botta's Pocket Gopher	Detected (Burrows)
Odocoileus hemionus	Mule Deer	Detected (Scat)
Neotoma fuscipes	Long-eared Woodrat	Detected (Nests)
Invertebrates		
Order Lepidoptera (Butterflies, Moths)		
Paplilio zelicaon	Anise Swallowtail	Observed

[6] An asterisk "*" after the scientific name indicates non-native species.

Scientific Name[6]	Common Name	Evidence
Colias sp.	small yellow butterfly	Observed
Synanthedon resplendens	Western Sycamore Borer	Observed
Order Diptera (Flies)		
Andricus quercuscalifornicus [*A. californicus*]	California Oak [Apple] Gall	Detected (gall)
Symphoromyia sp.	Biting Snipe Fly	Observed
Order Hymenoptera (Ants, Wasps, Bees)		
Iridomyrmex humilis *	Argentine Ant	Observed
Family: *Formicidae*	small black ant (not Argentine)	Observed
Euura lasiolepis	Arroyo Willow Stem Sawfly	Detected (gall)
Apis mellifera *	European Honey Bee	Observed
Vespula vespa	Yellowjacket	Observed
Agrilus angelicus	Oak Twig Girdler	Detected
Class Gastropoda (Snails and Slugs)		
Helix aspera *	Garden Snail	Observed (shells)

HABITATS

A total of five (5) habitat and land cover types were identified on the Malibu Jewish Center & Synagogue parcel and adjacent areas, which are listed in the natural vegetation and land cover types present onsite were mapped and are illustrated on Figure 3, Vegetation Communities and Land Cover of the Project Site.

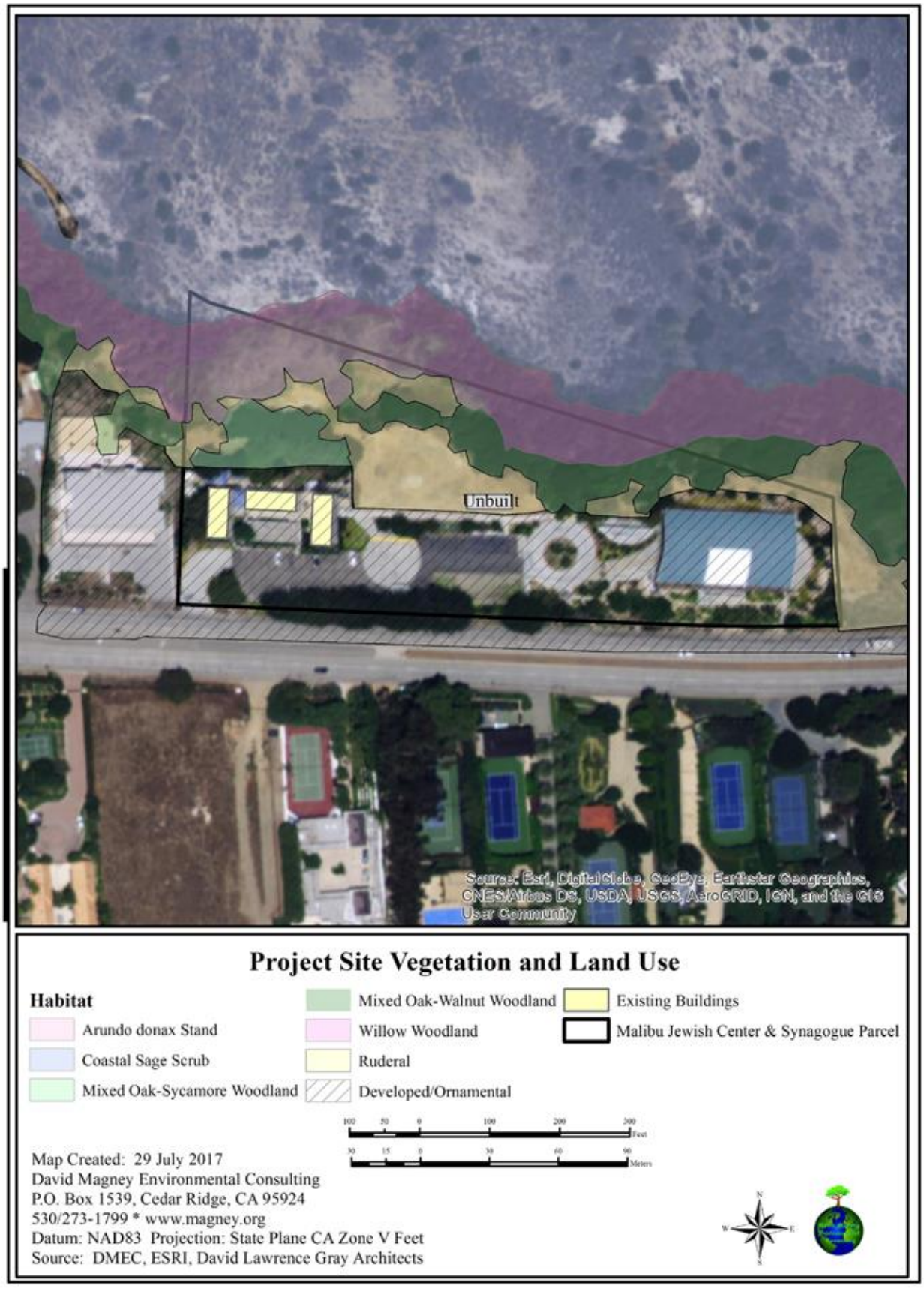
Table 3, Existing Habitats and Land Cover on the Project Site and Expected Impacts, provides the area in acres for each habitat and land cover and the acreage of each habitat that is considered ESHA under CCC guidelines. In addition, the estimated acreage of expected project impacts on the site, within ESHA on the site, and off of the project site (no ESHA is expected to be impacted offsite) is listed. Each habitat and land cover type is described below.

Table 3 – Existing Habitats and Land Cover on the Project Site and Expected Impacts

Existing Habitats and Land Cover Observed	Total Onsite Acres	Onsite ESHA Acres	Construction Impact Acres	ESHA Impact Acres	ESHA Buffer Impact Acres	Fuel Modification Impact Acres[7]	Total Impact Acres
Arundo Stand	0.35	0.35	0	0	0	0.05	0.05
Ruderal Grassland	0.76	0.11	0.13	0	0.13	0.46	0.59
Coastal Sage Scrub	0.03	0.03	0	0	0	0	0
Oak-Walnut Woodland	0.43	0.43	0	0	0	0.19	0.19
Oak-Sycamore Woodland	0.23	0	0	0	0	0.22	0.22
Willow Thicket	0.29	0.29	0	0	0	0.03	0.03
Developed Areas	2.54	0	0.30	0	0.3	0.94	1.24
Acreage Totals	4.64	1.21	0.43	0	0.16	1.9	2.32

[7] In addition to/beyond construction footprint.

Figure 3 – Vegetation Communities and Land Cover of the Project Site



Woodlands

Woodlands are plant communities dominated and characterized by trees. Canopy density and understory composition can vary drastically depending upon the dominant tree species and general location of the woodland (e.g. upland and riparian communities). Woodlands at the project site consist of entirely Oak Woodland, dominated by *Quercus agrifolia* var. *agrifolia* (Coast Live Oak) and including *Platanus racemosa* var. *racemosa* (Western Sycamore) and *Juglans californica* (Southern California Black Walnut) individuals.

Coast Live Oak Woodland

Coast Live Oak Woodland is a plant community dominated or co-dominated by *Quercus agrifolia* var. *agrifolia* (Sawyer et al. 2009). *Q. agrifolia* is a broad-leaved, evergreen, wide-topped tree with furrowed, dark gray bark and spine-toothed, convex, dark green leaves. *Q. agrifolia* is the most widely distributed species of the evergreen oak in California, and it is capable of achieving large size and old age (Zedler et al. 1997). *Quercus agrifolia* Woodland Alliance occurs predominantly in canyons, on steep slopes, and on raised stream banks and terraces at elevations below 1,200 meters. It forms a continuous to open 25-meter-tall canopy, growing over an understory of occasional shrubs and an herbaceous ground layer that is sparse or grassy. *Quercus agrifolia* Woodland Alliance requires >50% relative cover in the tree canopy by *Q. agrifolia.* This alliance occupies deep, sandstone or shale-derived soils on slopes and flats (Sawyer et al. 2009).

Quercus agrifolia Woodland Alliance provides habitat and food for numerous wildlife species, in particular, Acorn Woodpecker, Western Scrub-jay, Western Gray Squirrel, and California Ground Squirrel, and many more. Rarity ranking for this alliance when occurring in riparian systems is G4/S4; however, all woodlands present on the project site were observed to be functioning as upland communities.

Coast Live Oak Woodlands of the project site are represented by the dominance of *Q. agrifolia* var. *a.* Woodlands of the project site are mainly scattered, undeveloped, upland stands to the north and east of the proposed development footprint. *Quercus agrifolia* Woodland Alliance stands are intermingled with individuals of *Platanus racemosa* and *Juglans californica*. A portion of the *Quercus agrifolia* Woodland Alliance on the Malibu Jewish Center & Synagogue parcel has had the understory cleared, presumably for fuel modification. This area exists in the north western section of the parcel, adjacent to the largest stand of *Arundo donax*. The in this cleared area now consists primarily of ruderal grassland. East and West of this cleared area individuals of *Heteromeles arbutifolia* (Toyon), *Toxicodendron diversilobum* (Western Poison Oak), *Rubus ursinus* (California Blackberry), and other native shrubs and herbs dominate the understory. The woodland alliance and associations present on the project site, as described by Sawyer et al. (2009) consist of the following alliances and associations.

Quercus agrifolia Woodland Alliance

Quercus agrifolia Woodland Alliance (Coast Live Oak Woodland) is dominated by *Q. agrifolia* var. *agrifolia*. It is represented onsite by five associations, listed below.

- *Quercus agrifolia*/grass Association

- *Quercus agrifolia/Heteromeles arbutifolia-Toxicodendron diversilobum* Association
- *Quercus agrifolia/Toxicodendron diversilobum*-grass Association
- *Quercus agrifolia-Platanus racemosa* Association
- *Quercus agrifolia-Juglans californica* Association

Coast Live Oak Woodlands with individuals of Southern California Black Walnut were mapped as "Oak-Walnut Woodlands" and areas where individuals of *Platanus racemosa* occurred were mapped as "Oak-Sycamore Woodlands". Oak-Walnut Woodland occupies approximately 0.43 acre and Oak-Sycamore Woodland occupies approximately 0.23 acre of the Malibu Jewish Center & Synagogue parcel, for a total of 0.66 acre of Coast Live Oak Woodlands.

All areas mapped onsite as Oak-Sycamore Woodlands exist just north of the proposed project footprint. This area has an understory consisting of ruderal grasslands, likely due to fuel modification and previous grading/soil disturbance. Due to the presence of a non-native/altered understory, DMEC does not believe this area qualifies as ESHA. In addition the trees occurring along the perimeter fence of the school play yard were planted.

Coast Live Oak Woodlands containing >30% relative cover of *Juglans californica* qualify as California Walnut Woodland (Sawyer et al. 2009), a CNDDB tracked rare habitat (CDFW 2014). Portions of the woodlands onsite just north east of the proposed development meet this requirement. Several large mature *Juglans californica* individuals make up a significant portion of the tree canopy on the central portion of the parcel, northeast of the proposed development. Boundary delineation protocols and minimum grove-size membership requirements for this alliance are not well described, thus DMEC treats this community as rare; however, no significant impacts are expected.

Photo 1 (left). View westward of mixed Oak-Sycamore Woodland with modified (ruderal) understory.
Photo 2 (right). View eastward of mixed Oak-Walnut Woodland natural understory adjacent to Arundo donax.

Photo 3 (left). View northward of mixed Oak-Walnut Woodland canopy with Coastal Sage Scrub in background. Photo 4 (right). Juglans californica *individual among mixed Oak-Walnut Woodland.*

Riparian Habitats

Riparian habitats are those plant communities that occur on the banks of perennial, intermittent, and ephemeral streams.

Giant Reed Break (*Arundo donax* Semi-natural)

Giant Reed Break is plant community characterized by the dominance of *Arundo donax* (Giant Reed). *A. donax* is a perennial grass species with alternate, long, tapered, grey-green leaves and hollow stems. *A. donax* generally grows to heights of <8 meters and resembles bamboo. *A. donax* is an aggressive invasive species and one of the fastest growing terrestrial plants in the world (Sawyer et al. 2009). It can form dense mats and clumps that choke stream channels, crowd out native species, increase fire potential, and reduce wildlife habitat. It propagates primarily through rhizomes and the rhizomes of detached clumps.

*Photo 5 (left). View westward of riparian community (*Arundo donax*) below hillside mixed Oak-Walnut Woodland. Photo 6 (right). View northward of dense* Arundo donax *stand in Puerco Canyon Creek.*

A. donax forms a nearly impenetrably dense stand on the project site. Several individuals of *Salix lasiolepis* exist within the stands of *A. donax*; however, *S. lasiolepis* is the dominant riparian species in areas not containing *A. donax.* This stand dominates the creek bed on the northwest corner of the project parcel and exists in the adjacent parcels to the north and west. This stand of *A, donax* appears to be the only significant stand within Puerco Canyon Creek drainage. Areas on the project site dominated by *A. donax* are mapped as "Arundo Stand". The project site contains approximately 0.35 acre of *A. donax.*

Arroyo Willow Thicket (*Salix lasiolepis* Shrubland Alliance)

Arroyo Willow Thicket is a plant community characterized by the dominance of Arroyo Willow (*Salix lasiolepis* var. *lasiolepis*) and is described by Sawyer et al. (2009) as *Salix lasiolepis* Shrubland Alliance. *S. lasiolepis* is a riparian shrub or tree, growing up to 8 meters in height. It has long strap-shaped to obovate leaves with entire to toothed margins. *S. lasiolepis* grows in seasonally or intermittently flooded areas such as stream beds, banks, and benches and is typically shrubby and many stemmed (Sawyer et al. 2009). It can form an open or continuous canopy and often has a variable herbaceous understory. *S. lasiolepis* is well adapted to flood disturbance and easily colonizes in moist areas where it can become "weedy".

Arroyo Willow Thicket dominates the streambed on the project site in areas where *Arundo donax* does not occur. *S. lasiolepis* and *A. donax* do occur together, but in areas where *A. donax* forms dense stands, *S. lasiolepis* is forced out. Areas of the project site dominated by *S. lasiolepis* are mapped as "Willow Thicket". The project site contains approximately 0.29 acre of Arroyo Willow Thicket.

Photo 7 (left). View eastward (downstream) of creek bed and Arroyo Willow Thicket with understory.
Photo 8 (right). View westward (upstream) of creek bed and Arroyo Willow Thicket with understory.

Scrub Habitats

Scrub Habitats is a general type of vegetation that is dominated by evergreen and deciduous shrubs with small to large, thick, leathery to soft and grayish-green leaves. The shrubs of scrublands are relatively low and open (sometimes dense), and are pre-adapted to periodic wildfires by stump sprouting or by germination from a dormant seed bank. These shrubs are also

adapted to drought by deep extensive root systems, while their small thick leaf structure, gray color, waxy or hairy coating, or drought deciduousness prevents permanent damage from moisture loss (Zedler et al. 1997). Many typical chaparral species also grow intermixed as associates with scrubland species. Scrublands typically occurs on moderate to steep slopes with dry, rocky, shallow soils, becoming more abundant with higher elevations where temperatures are lower and moisture supplies are more ample.

Scrublands, as a general category, is a subdominant vegetation type onsite and in the region, occupying only the extreme northwestern corner of the parcel, approximately 1.45 acres. However, the hillsides north of the project site are dominated by scrublands. Scrublands onsite consist of Coastal Sage Scrub and Coastal Sage Scrub – Grassland plant communities.

Coastal Sage Scrub

Coastal Sage Scrub is a shrubland dominated by facultative drought-deciduous, low-growing, soft-leaved, and grayish-green (malacophyllus) shrubs and subshrubs. Coastal Sage Scrub plant series typically exhibit a patchy distribution, often in close association with areas inhabited by chaparral habitats. Due to stand variations, Coastal Sage Scrub is often considered part of a collection of species-specific plant series (Sawyer and Keeler-Wolf 1995).

Southern California's coastline, foothills, and western slopes were once covered by Coastal Sage Scrub, but are now largely developed. Unlike plant relatives found in the mountains and deserts, Coastal Sage Scrub species have adapted to an ecosystem that rarely freezes in the winter and only occasionally experience temperatures over 90°F during the dry California summer. Coastal Sage Scrub plants can store moisture and reduce moisture loss during the prolonged hot, dry months between April and October. The plants either conserve water by specialized leaf structures or dormancy. Tough leathery, wax-covered leaves prevent water from escaping through leaf pores. Minute white hairs keep leaf temperatures down by reflecting sunlight and reduce moisture loss by slowing dry winds. Some leaves are reduced in size, appearing as spines, as on cacti. Other plants drop their leaves during summer months, while other species will dry up and go dormant by middle summer. Root systems can be extensive, sometimes exceeding 30 feet. The roots anchor the plants, hold soil in place, and reduce runoff during winter and spring rains. Fire is also a healthy and necessary component of its life cycle as long as the return frequency is low (over 30 years, Safford and Van de Water 2014). Shrub species respond to recurrent fires by re-sprouting from crown and roots and by producing fire-resistant seeds that are fire-dependent for germination.

Coastal Sage Scrub at the project site occupies only the extreme northwest corner; however, the hillsides north of the project site, outside the parcel boundaries, are dominated by Coastal Sage Scrub. These hillsides are characterized mainly by sparse *Malosma laurina* (Laurel Sumac) and *Eriogonum cinereum* (Coastal Buckwheat) with various annual herbs. Coastal Sage Scrub on the project site was mapped as “Coastal Sage Scrub”, and occupies approximately 0.03 acre.

Photo 9. View north with hillside Coastal Sage Scrub in background, Ruderal Grassland in foreground, and mixed Oak-Walnut Woodland in mid-ground.

Grasslands/Herblands

Grasslands/Herblands are plant communities dominated and characterized by herbaceous plants, consisting of grasses and graminoids and wildflowers and herbs, both annual and perennial in duration, depending on the type. Grasslands/Herblands at the project site consists entirely of Ruderal Grassland, which has been disturbed in the recent past by human activities, likely because of required fire fuel modification.

Ruderal Grassland

Ruderal Grassland is an herbaceous plant community dominated by spring-flowering annual grasses and forbs that generally complete their life cycles in one or two seasons, winter and spring, or into early summer, that is/has been modified by anthropomorphic activities.

Ruderal Grassland at the project site consists of a depauperate herbaceous flora dominated by non-native grasses and herbs: *Bromus diandrus* ssp. *diandrus* (Ripgut Grass) dominated the herbaceous areas, with individuals and/or patches of *Stipa miliacea* var. *miliacea*, *Pennisetum clandestinum*, and *Salsola tragus*. Scattered native species such as *Hazardia squarrosa* (Sawtooth Goldenbush) and *Heterotheca grandiflora* (Telegraph Weed) occur within the ruderal communities, particularly on the eastern end of the proposed project footprint.

Areas on the project site where the herbaceous layer is dominated by non-native species with no tree canopy are mapped as "Ruderal Grasslands". Ruderal Grassland occupies approximately 0.76 acre of the project site.

Photo 10 (left). View west of Ruderal Grassland near center of project site parcel and east end of project footprint. Photo 11 (right). View southeastward of Ruderal Grassland near center of project site parcel and east end of project footprint

Disturbed/Developed Areas

Disturbed/Developed areas consist of lands that have been affected by some sort of physical disturbance or improvement, such as grading, brush clearing, landslides, etc., and developed as buildings, roads, and landscaping. While wildfires temporarily change the density and height of natural vegetation, such a disturbance is not included here. Areas immediately south, west, and east of the project site have been developed. Homes, businesses and associated driveways, roads, and landscaping, or remnants of such, occur in these areas. Disturbed/Developed Areas occupy approximately 2.54 acres of the project site and are mapped as "Disturbed/Developed".

SECTION III. SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources consist of natural vegetation or habitats that are rare or support rare or sensitive species and special-status species of plants or wildlife. Each of these categories of sensitive biological resources is described in detail below.

SPECIAL-STATUS RESOURCES DEFINITIONS

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Special-status species are plants and animals that are at least one of the following:

Listed as Endangered or Threatened under Federal or California Endangered Species Acts;

Listed as Rare under the California Native Plant Protection Act; or

Considered rare (but not formally listed) by resource agencies, professional organizations (e.g. Audubon Society, California Native Plant Society [CNPS], The Wildlife Society), and the scientific community.

Listed species are those taxa that are formally listed as Endangered or Threatened by the federal government (e.g. USFWS), pursuant to the Federal Endangered Species Act (ESA) or as Endangered, Threatened, or Tare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act (CESA) or the California Native Plant Protection Act, or those formally adopted by a local (e.g. county or city government) agency as of local concern or rare, or similar status. Special-status species are defined in Table 4 – Definitions of Special-Status Species.

The CNPS' *Inventory of Rare and Endangered Plants of California* (CNPS 2001, 2007) categorizes rare California plants into one of five ranks or lists (1A, 1B, 2, 3, and 4) representing five levels of species status, one of which is assigned to a sensitive species to indicate its status of rarity or endangerment and distribution. Most taxa also receive a threat code extension following the List (e.g. 1B.1, 2.3), which replaces the R-E-D Code previously used by CNPS. Table 5 – California Native Plant Society Rare Plant Ranks (CNPS Lists), provides a definition for each List code number, and

Table 6 – California Native Plant Society Risk Threat Code Extensions, defines the CNPS List Threat Code Extensions that indicates the level of endangerment within California.

The California Natural Diversity Database (CNDDB) Element Ranking system provides a numeric global and state-ranking system for all special-status species tracked by the CNDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. This Element Ranking system is defined below in Table 7 – California Natural Diversity Database Element Ranking System.

Table 4 – Definitions of Special-Status Species

o Plants and animals legally protected under the California and Federal Endangered Species Acts or under other regulations.
o Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or
o Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range.

Special-Status Plant Species	Special-Status Animal Species
o Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in *Federal Register* for proposed species). o Plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (55 CFR 6184, February 21, 1990). o Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380). o Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001). o Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 & 4 in CNPS 2001). o Plants listed by CNPS as locally rare (Lake 2004, Magney 2007a, Wilken 2003). o Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5). o Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). o Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions. o Plants considered sensitive or unique by the scientific community; occurs at natural range limits (*State CEQA Guidelines*, Appendix G).	o Animals listed/proposed for listing as threatened/endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in *Federal Register* for proposed species). o Animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under Federal Endangered Species Act (54 CFR 554). o Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380). o Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5). o Animal species of special concern (SSC) to the CDFG. o Animal species that are fully protected in California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]). o Animals considered rare or sensitive locally by a local agency or scientific community (*State CEQA Guidelines*, Appendix G)

Table 5 – California Native Plant Society Rare Plant Ranks (CNPS Lists)

CNPS Rank	Definition
1A	Presumed Extinct in California
1B	Rare, Threatened, or Endangered in California and elsewhere
2	Rare, Threatened, or Endangered in California, but more common elsewhere
3	Need more information (a Review List)
4	Plants of Limited Distribution (a Watch List)

Table 6 – California Native Plant Society Risk Threat Code Extensions

CNPS Threat Code Extension	Definition
x.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
x.2	Fairly endangered in California (20-80% occurrences threatened)
x.3	Not very endangered in California (<20% of occurrences threatened)

Table 7 – California Natural Diversity Database Element Ranking System

Global Ranking (G)	
G1	Less than 6 viable element occurrences (pops for species), OR less than 1,000 individuals, OR <809.4 hectares (ha) (2,000 acres [ac]).
G2	6 to 20 element occurrences OR 809.4 to 4,047 ha (2,000 to 10,000 ac).
G3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac).
G4	Apparently secure; rank lower than G3, factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat).
G5	Population, or stand, demonstrably secure to ineradicable due to being commonly found in the world.
GH	All sites are **historic**; the element has not been seen for at least 20 years, but suitable habitat still exists.
GX	All sites are **extirpated;** this element is extinct in the wild.
GXC	Extinct in the wild; exists in cultivation.
G1Q	The element is very rare, but there is a taxonomic question associated with it.
Subspecies Level: Subspecies receive a **T-rank** attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. **For example:** *Chorizanthe robusta* var. *hartwegii* is ranked G2T1. The G-rank refers to the whole species range (*Chorizanthe robusta*), whereas the T-rank refers only to the global condition of the variety (var. *hartwegii*).	
State Ranking (S)	
S1	Less than 6 element occurrences OR less than 1,000 individuals OR less than 809.4 ha (2,000 ac). S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known
S2	6 to 20 element occurrences OR 3,000 individuals OR 809.4 to 4,047 ha (2,000 to 10,000 ac). S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known..
S3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac). S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known
S4	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat). NO THREAT RANK.
S5	Demonstrably secure to ineradicable in California. NO THREAT RANK.
SH	All California sites are **historic**; the element has not been seen for at least 20 years, but suitable habitat still exists.

SX	All California sites are **extirpated;** this element is extinct in the wild.

Notes

1. Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take an aerial view when ranking sensitive elements rather than simply counting element occurrences.

2. Uncertainty about the rank of an element is expressed in two major ways: by expressing the rank as a range of values (e.g. S2S3 means the rank is somewhere between S2 and S3), and by adding a ? to the rank (e.g. S2?). This represents more certainty than S2S3, but less than S2.

ENVIRONMENTALLY SENSITIVE HABITAT AREA (ESHA)

The Coastal Act and the Malibu Local Coastal Plan define Environmentally Sensitive Habitat Area (ESHA) as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5 and Chapter 2, respectively). There are three elements important in defining ESHA:

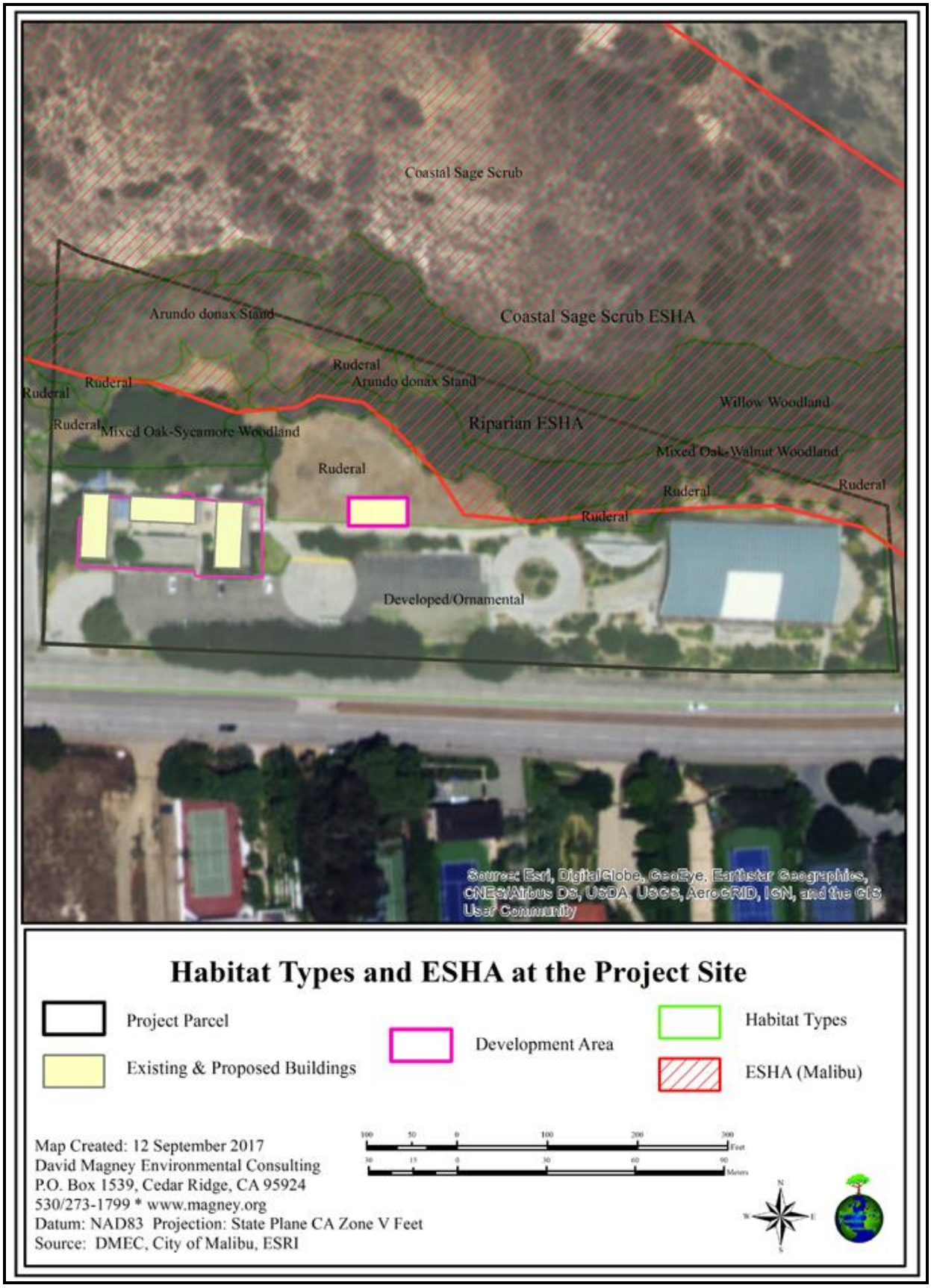
1) a geographic area can be designated as ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat;
2) in order for an area to be designated as ESHA, the species or habitat must be either rare or it must be especially valuable; and
3) the area must be easily disturbed or degraded by human activities.

The CCC considers the Mediterranean Ecosystem in the Santa Mountains to be rare and especially valuable because of its relatively pristine character, physical complexity, and resultant biological diversity. Therefore, areas of undeveloped native habitat in the Santa Monica Mountains that are large and relatively unfragmented may meet the definition of ESHA by virtue of their valuable roles in that ecosystem, regardless of their relative rarity throughout the state. This is the only place in the coastal zone where the CCC has recognized Chaparral as meeting the definition of ESHA. Due to the essential role that plant communities play in maintaining the biodiversity of the Santa Monica Mountains, the historical losses and current rarity of these habitats in Southern California, and their extreme sensitivity to disturbance, the native Riparian, Coastal Sage Scrub, and Oak Woodland habitats in the Santa Monica Mountains also meet the definition of ESHA under the Coastal Act (Dixon 2003). The City of Malibu Local Coastal Program also considers areas that are within 200 feet of designated ESHA as environmentally sensitive.

Onsite ESHA

The northern portion of the site is just within the southern boundary of 1,498 acres of contiguous ESHA as mapped by the City of Malibu. Figure 4 – City of Malibu ESHA Overlay Zone of the Project Site, shows the extent of the ESHA overlay zone as depicted on the City of Malibu website (City of Malibu 2014).

Figure 4 – City of Malibu ESHA Overlay Zone of the Project Site



DMEC delineated ESHA onsite as defined by the CCC (Dixon 2003) during field surveys and using aerial photo interpretation, as shown on Figure 4. DMEC found intact habitats qualifying as ESHA onsite to include: the riparian communities associated with Puerco Canyon Creek, Coastal Sage Scrub on the hillsides north of the creek, and mixed oak woodlands with natural understory on the creek banks and hillsides.

DMEC excludes the ruderal communities onsite as ESHA based on the CCC definition of ESHA in the Santa Monica Mountains (Dixon 2003), illustrated on Figure 4. This includes the area mapped as mixed Oak-Sycamore Woodland just north of the proposed project footprint due to the fact the understory is altered and consists primarily of non-native ruderal species and that these trees were planted in this location. However, DMEC did include the stands of *Arundo donax* as ESHA, as it is functioning as a riparian community. Also, one meadow dominated primarily by ruderal/non-native species was included as ESHA because it is bounded on all sides by natural or riparian habitats and not managed for fuel modification.

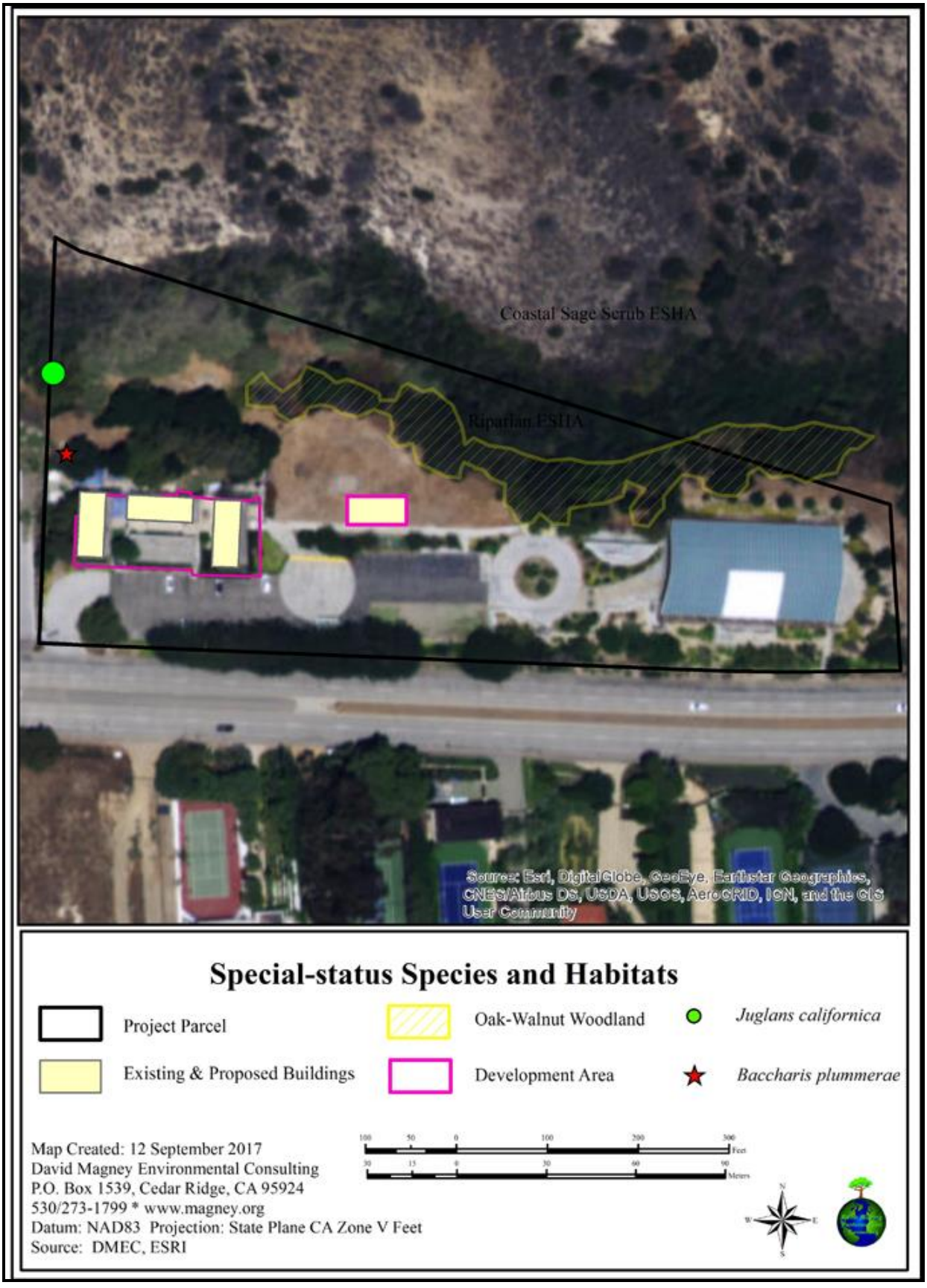
CNDDB SEARCH RESULTS

This section addresses the special-status biological resources observed, reported, or having the potential to occur on the project site. These resources include plant and wildlife species that have been afforded special-status and/or recognition by federal and state resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e. species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss.

DMEC conducted a search of CDFW's CNDDB RareFind5 (CDFW 2014) for the Malibu Beach, California USGS Quadrangle (in which the project site is found), and for the five surrounding quadrangles, including Calabasas, Canoga Park, Point Dume, Thousand Oaks, and Topanga. This search was updated by an examination of the current, 2014, version of the CNDDB GIS database. DMEC conducted this database search to account for special-status species tracked by CNDDB in the area and with potential to occur at the project site. Seventy-nine (79) special-status elements were reported by CNDDB, including thirty-three (33) plant species, forty (40) wildlife species, and six (6) habitats. Figure 5, Special-status Species and Habitats, illustrates the local distribution of each of three categories, plants, wildlife, and habitats, including those species observed onsite or adjacent to the Malibu Jewish Center & Synagogue parcel.

DMEC also conducted a search of CNPS's *Inventory of Rare and Endangered Plants of California* (2014, 2017) to account for CNPS-listed plants not tracked on the CNDDB database with potential to occur in the vicinity of the proposed project site. The CNDDB Special Animals List (CNDDB 2011) was also referenced to account for other listed animal species.

Figure 5 – Special-status Species and Habitats Onsite



Special-status Plants

A total of thirty-three (33) special-status plant species tracked by CNDDB are known or reported in the vicinity of the project site and have the potential to occur onsite. Table 8 – Special-status Plants Potentially Occurring Onsite, summarizes the CNDDB reports for the 33 special-status plant species tracked for the six quads, and provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence. CNPS's *Inventory of Rare and Endangered Plants of California* lists thirteen (13) additional vascular plants potentially occurring onsite that are shown in Table 9 – Additional CNPS-Listed Plants Potentially Occurring Onsite, summarizes additional CNPS-listed plants potentially occurring onsite.

Two (2) special-status plant species were observed onsite, *Juglans californica* (Southern California Black Walnut) and *Baccharis plummerae* ssp. *plummerae* (Plummer's Baccharis). *J. californica* is CNPS Rank 4.2 species and *B. plummerae* ssp. *plummerae* is a CNPS Rank 4.3 species. *J. californica* is also tracked by the CNDDB as a sensitive habitat when occurring in woodlands. *J. californica* comprises a portion of the hillside woodland just northeast of the proposed development. There is also a single individual tree of sufficient size to warrant protection near the northwestern corner of the proposed development. The locations of special-status species and habitats observed onsite are illustrated on Figure 5 – Special-status Species and Habitats Onsite.

*Photo 12 (left). Southern California Black Walnut (*Juglans californica*) shrub/tree on western parcel boundary, near northwestern corner of proposed development.*
*Photo 13 (right). Southern California Black Walnut (*Juglans californica*) tree among mixed Oak-Walnut Woodland.*

Special-status Wildlife

A total of thirty-three (33) special-status plant species tracked by CNDDB are known or reported in the vicinity of the project site and have the potential to occur onsite. Table 10 – Special-status Wildlife Potentially Occurring Onsite, summarizes the CNDDB reports for the 33 special-status wildlife species tracked for the six quads, and provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence. In addition to the species listed in Table 10, it should be noted that all raptors, raptor nests (active or inactive), and other active bird nests are protected under Fish and Game Code Section 3503. No special-status wildlife species were observed onsite or in close proximity to the Jewish Center & Synagogue parcel.

DMEC

Table 8 – Special-status Plants Potentially Occurring Onsite

Scientific Name	Common Name	G Rank[8]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[9]
Astragalus brauntonii	Braunton's Milkvetch	G2	S2	FE	-	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; in stiff gravelly clay soils overlying granite or limestone. Elev. 4-640 m. Reported at Malibu Lagoon.	Possible
Astragalus pycnostachyus var. *lanosissimus*	Ventura Marsh Milkvetch	G2T1	S1	FE	CE	1B.1	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Elev. 1-35m.	Unlikely
Astragalus tener var. *titi*	Coastal Dunes Milkvetch	G2T1	S1	FE	CE	1B.1	Coastal bluff scrub, coastal dunes. Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one site on a clay terrace. Elev. 1-50m.	Unlikely
Atriplex coulteri	Coulter's Saltbush	G2	S2	-	-	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Elev. 10-440m.	Unlikely
Atriplex parishii	Parish's Brittlescale	G1G2	S1	-	-	1B.1	Alkali meadows, vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. Elev. 4-140m.	Unlikely
Atriplex serenana var. *davidsonii*	Davidson's Saltscale	G5T1	S1	-	-	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. Elev 10-200 m.	Unlikely

[8] See Tables 4through 7 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; SC = Species of Concern.

[9] Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:

Observed [P] = Species has been observed onsite [Present];

Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];

Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];

Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].

Scientific Name	Common Name	G Rank[8]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[9]
Baccharis malibuensis	Malibu Baccharis	G1	S1	-	-	1B.1	Coastal scrub, chaparral, cismontane woodland. In Conejo volcanic substrates, often on exposed roadcuts. Sometimes occupies oak woodland habitat. Elev. 150-260 m.	Possible
California macrophylla	Round-leaved Filaree	G2	S2	-	-	1B.1	Cismontane woodland, valley and foothill grassland. Clay soils. 15-1,200 m.	Unlikely
Calochortus clavatus var. *gracilis*	Slender Mariposa Lily	G4T2T3	S2S3	-	-	1B.2	Chaparral, coastal scrub. Shaded foothill canyons; often on grassy slopes within other habitat. Elev. 420-760m	Possible
Calochortus plummerae	Plummer's Mariposa Lily	G4	S4	-	-	4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Elev. 90-1,610 m.	Possible
Centromadia parryi ssp. *australis*	Southern Tarplant	G3T2	S2	-	-	1B.1	Marshes and swamps (margins), valley and foothill grassland. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with Saltgrass.	Unlikely
Chloropyron maritimum ssp. *maritimum*	Salt Marsh Bird's-beak	G4?T1	S1	FE	CE	1B.2	Coastal salt marsh, coastal dunes. Limited to the higher zones of the salt marsh habitat. Elev. 0-30 m.	Unlikely
Chorizanthe parryi var. *fernandina*	San Fernando Valley Spineflower	G2T1	S1	FC	CE	1B.1	Coastal scrub. Sandy soils. Elev. 3-1,035 m.	Unlikely
Chorizanthe parryi var. *parryi*	Parry's Spineflower	G3T3	S3	-	-	1B.1	Coastal scrub, chaparral. Dry slopes and flats, sometimes at interface of 2 vegetation types (e.g. chaparral and oak woodland). Dry, sandy soils. Elev. 40-1,705 m.	Possible
Deinandra minthornii	Santa Susana Tarplant	G2	S2	-	CR	1B.2	Chaparral, coastal scrub. On sandstone outcrops and crevices, in shrubland. Elev. 280-760m.	Unlikely
Delphinium parryi ssp. *blochmaniae*	Dune Larkspur	G4T2	S2	-	-	1B.2	Chaparral, coastal dunes (maritime). On rocky areas and dunes. Elev. 30-375 m.	Unlikely

Scientific Name	Common Name	G Rank[8]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[9]
Dithyrea maritima	Beach Spectaclepod	G2	S1	-	CT	1B.1	Coastal dunes, coastal scrub. Formerly more widespread in coastal habitats in So. Calif. Sea shores, on sand dunes, and sandy places near the shore. Elev. 3-50 m.	Unlikely
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's Dudleya	G2T2	S2	-	-	1B.1	Coastal scrub, coastal bluff scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas w/little soil. Elev. 5-450 m.	Unlikely
Dudleya cymosa ssp. *agourensis*	Agoura Hills Dudleya	G5T1	S2	FT	-	1B.2	Chaparral, cismontane woodland. Rocky, volcanic breccia. Elev. 200-500 m.	Unlikely
Dudleya cymosa ssp. *marcescens*	Marcescent Dudleya	G5T2	S2	FT	CR	1B.2	Chaparral. On sheer rock surfaces and rocky volcanic cliffs. Elev. 180-520 m.	Unlikely
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Dudleya	G5T1	S1	FT	-	1B.1	Chaparral, coastal scrub. In canyons on sedimentary conglomerates; primarily north-facing slopes. Elev. 210-500 m.	Unlikely
Dudleya multicaulis	Many-stemmed Dudleya	G2	S2	-	-	1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. Elev. 0-790 m.	Unlikely
Dudleya parva	Conejo Dudleya	G2	S2	FT	-	1B.2	Coastal scrub, valley and foothill grassland. In clayey or volcanic soils on rocky slopes and grassy hillsides. Elev. 60-450 m.	Unlikely
Eriogonum crocatum	Conejo Buckwheat	G1	S1	-	CR	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites. Elev. 50-580 m.	Unlikely
Isocoma menziesii var. *decumbens*	Decumbent Goldenbush	G3G5T2T3	S2	-	-	1B.2	Coastal scrub, chaparral. Sandy soils; often in disturbed sites. Elev. 10-135 m.	Unlikely
Lasthenia glabrata ssp. *coulteri*	Coulter's Goldfields	G4T2	S2	-	-	1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. Elev. 1-1,200 m.	Unlikely
Monardella hypoleuca ssp. *hypoleuca*	White-veined Monardella	G4T2T3	S2S3	-	-	1B.3	Chaparral, cismontane woodland. Dry slopes. Elev. 50-1,525 m.	Possible

Scientific Name	Common Name	G Rank[8]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[9]
Nolina cismontana	Chaparral Nolina	G2	S2	-	-	1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. Elev. 140-1,275 m.	Unlikely
Orcuttia californica	California Orcutt Grass	G1	S1	FE	CE	1B.1	Vernal pools. Elev. 15-660 m.	Unlikely
Pentachaeta lyonii	Lyon's Pentachaeta	G2	S2	FE	CE	1B.1	Chaparral, valley and foothill grassland. Edges of clearings in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks. Elev. 30-630 m.	Unlikely
Sidalcea neomexicana	Salt Spring Checkerbloom	G4?	S2S3	-	-	2B.2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. Elev. 0-1,500 m.	Unlikely
Thelypteris puberula var. *sonorensis*	Sonoran Maiden Fern	G5T3	S2	-	-	2B.2	Meadows and seeps. Along streams, seepage areas. Elev. 50-550 m.	Unlikely
Tortula californica	California Screw-moss	G2?	S2	-	-	1B.2	Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. Elev. 10-1,460 m.	Unlikely

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Table 9 – Additional CNPS-Listed Plants Potentially Occurring Onsite

Scientific Name	Common Name	G Rank[10]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[11]
Asplenium vespertinum	Western Spleenwort	G3?	S3.2	-	-	4.2	Chaparral, Coastal Sage Scrub, Oak Woodland. Base of overhanging boulders. Elev. 200–1,000 m	Unlikely
Calandrinia breweri	Brewer's Calandrinia	G4	S3.2?	-	-	4.2	Chaparral, Coastal Sage Scrub. Sandy to loamy soil, disturbed sites, burns. Elev. < ,1200 m	Unlikely
Calochortus catalinae	Catalina Mariposa Lily	G3	S3.2	-	-	4.2	Chaparral, Valley Grassland, Foothill Woodland, Coastal Sage Scrub. Heavy soil, open sites. Elev. < 700 m	Possible
Calochortus clavatus var. *clavatus*	Club-haired Mariposa Lily	G4T3	S3	-	-	4.3	Chaparral, Valley Grassland, Foothill Woodland. Generally serpentine soils. Elev. < 1,300 m	Unlikely
Camissoniopsis lewisii	Lewis' Evening-Primrose	G2G3	S1S3	-	-	3	Coastal Strand, Foothill Woodland, Coastal Sage Scrub, Valley Grassland. Sandy or clay soils, coastal. Elev. < 300 m	Unlikely
Cercocarpus betuloides var. *blancheae*	Island Mountain-Mahogany	G5T3	S3.3	-	-	4.3	Chaparral. Elev. <600 m	Unlikely
Convolvulus simulans	Small-flowered Morning-glory	G3	S3.2	-	-	4.2	Valley Grassland, Northern Coastal Scrub, Coastal Sage Scrub. Clay substrates, occasionally serpentine, occasionally near seeps. Elev. 30–875 m	Unlikely
Delphinium parryi ssp. *purpureum*	Mt. Pinos Larkspur	G4T3	S3.3	-	-	4.3	Creosote Bush Scrub, Chaparral, Pinyon-Juniper Woodland. Elev. 1,000–2,600 m	Unlikely

[10] See Table 4 through Table 7 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; SC = Species of Concern.

[11] Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:

Observed = Species has been observed onsite;

Likely = Required habitat present onsite and the species has been reported in the vicinity;

Possible = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby;

Unlikely = Required habitat not reported onsite, nor is it found nearby.

Scientific Name	Common Name	G Rank[10]	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence[11]
Juglans californica	Southern California Black Walnut	G3	S3.2	-	-	4.2	Southern Oak Woodland, wetland-riparian. Hillsides and canyons. Elev. 30–900 m	**Observed**
Lilium humboldtii ssp. *ocellatum*	Ocellated Humboldt Lily	G4T3	S3.2	-	-	4.2	Chaparral, Foothill Woodland, Yellow Pine Forest. Opening and streambanks. Elev. <1,800 m	Possible
Navarretia ojaiensis	Ojai Navarretia	G1	S1	-	-	1B.1	Clay soils. Elev. 300–1,000 m	Unlikely
Phacelia hubbyi	Hubby's Phacelia	G3	S3.2	-	-	4.2	Generally open gravelly or rocky slopes, chaparral, grassland. Elev. < 1,000 m	Possible
Phacelia ramosissima	South Coast Branching Phacelia	G5?T3	S3	-	-	3.2	Diverse habitats, including sand dunes, salt marshes, coastal bluffs, canyons, washes, flats, meadows, conifer forest. Elev. < 3800 m	Possible

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Table 10 – Special-status Wildlife Potentially Occurring Onsite

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
Amphibians								
Anaxyrus [*Bufo*] *californicus*	Arroyo Toad	G2G3	S2S3	E	-	SC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, & sycamores; loose, gravelly areas of streams in drier parts of range.	Unlikely
Rana draytonii	California Red-legged Frog	G2G3	S2S3	T	-	SC	Lowlands & foothills in or near permanent sources of deep water w/dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat.	Unlikely
Reptiles								
Emys marmorata	Western Pond Turtle	G3G4	S3	-	-	SC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 1,829 m elev. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites.	Unlikely

[12] See Tables 2 through 5 in Section 2.6 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SC = Species of Special Concern.

[13] CDFW = California Department of Fish and Wildlife, formerly known as California Department of Fish and Game.

[14] Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:
Observed [P] = Species has been observed onsite [Present];
Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];
Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];
Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
Aspidoscelis tigris ssp. *stejnegeri*	Coastal Whiptail	G5T3T4	S2S3	-	-	-	Found in deserts & semiarid areas w/sparse vegetation & open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Likely
Diadophis punctatus ssp. *modestus*	San Bernardino Ringneck Snake	G5T2T3Q	S2?	-	-	-	Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	Possible
Lampropeltis zonata (pulchra)	California Mountain Kingsnake (San Diego Population)	G4G5	S1S2	-	-	SC	Restricted to the San Gabriel and San Jacinto Mountains, of Southern California. Inhabits a variety of habitats, including valley-foothill hardwood, coniferous, chaparral, riparian, & wet meadows. Reported in vicinity at Stunts Ranch & Cold Creek Preserve.	Possible
Phrynosoma blainvillii	Coast Horned Lizard	G3G4	S3S4	-	-	SC	Frequents a wide variety of habitats, most common in lowlands along sandy washes w/scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	Likely
Thamnophis hammondii	Two-striped Garter Snake	G4	S3S4	-	-	SC	Coastal California from vicinity of Salinas to NW Baja California. From sealevel to about 2,134 m elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds & riparian growth.	Unlikely
Anniella stebbinsi [*A. pulchra* ssp. *p.*]	Southern California [Silvery] Legless Lizard	G3G4T3T4	S3	-	-	SC	Coastal California from vicinity of Salinas to NW Baja California. From sealevel to about 2,134 m elevation. Highly aquatic, found in or near permanent fresh water. Often along streams w/rocky beds & riparian growth.	Unlikely

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
				Birds				
Accipiter cooperii	Cooper's Hawk	G5	S3	-	-	WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Possible
Agelaius tricolor	Tricolored Blackbird	G2G3	S1S2	-	-	SC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, & foraging area w/insect prey w/in a few km of the colony.	Unlikely
Aimophila ruficeps ssp. *canescens*	Southern California Rufous-crowned Sparrow	G5T3	S2S3	-	-	WL	Resident in Southern California coastal sage scrub & sparse mixed chaparral. Frequents relatively steep, often rocky hillsides w/grass & forb patches.	Possible
Aquila chrysaetos	Golden Eagle	G5	S3	-	-	FP	Rolling foothills, mountain areas, sage-juniper flats, & desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Unlikely
Athene cunicularia	Burrowing Owl	G4	S3	-	-	SC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California Ground Squirrel.	Unlikely
Polioptila californica ssp. *californica*	Coastal California Gnatcatcher	G3T2	S2	T	-	SC	Obligate, permanent resident of coastal sage scrub below 762 m in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	Unlikely
Riparia riparia	Bank Swallow	G5	S2S3	-	T	SC	Colonial nester; nests primarily in riparian & other lowland habitats west of the desert. Requires vertical banks/cliffs w/fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Unlikely

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
Buteo swainsoni	Swainson's Hawk	G5	S3	-	T	-	Breeds in grasslands w/scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands w/groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Unlikely
Falco peregrinus anatum	American Peregrine Falcon	G4T4	S3S4	D	D	FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Unlikely
Vireo belli ssp. *pusillus*	Least Bell's Vireo	G3T2	S2	E	E	-	Summer resident of so. Calif. in low riparian in vicinity of water or in dry river bottoms; <2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, *Prosopis glandulosa*.	Possible
Mammals								
Antrozous pallidus	Pallid Bat	G5	S3	-	-	SC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats w/rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Possible
Euderma maculatum	Spotted Bat	G4	S2S3	-	-	SC	Occupies a wide variety of habitats from arid deserts & grasslands through mixed conifer forests. Feeds over water & along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	Possible
Eumops perotis ssp. *californicus*	Western Mastiff Bat	G5T4	S3?	-	-	SC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees, & tunnels.	Possible

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
Lasiurus blossevillii	Western Red Bat	G5	S3?	-	-	SC	Roosts primarily in trees, 0.6-12.2 m above ground, from sea level up through mixed conifer forests. Prefers habitat edges & mosaics w/trees that are protected from above & open below w/open areas for foraging.	Possible
Lasiurus cinereus	Hoary Bat	G5	S4?	-	-	-	Prefers open habitats or habitat mosaics, w/access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Possible
Macrotus californicus	California Leaf-Nosed Bat	G4	S2S3	-	-	SC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub & palm oasis habitats. Needs rocky, rugged terrain w/mines or caves for roosting.	Unlikely
Myotis ciliolabrum	Western Small-Footed Myotis	G5	S2S3	-	-	-	Wide range of habitats mostly arid wooded & brushy uplands near water. Seeks cover in caves, buildings, mines & crevices. Prefers open stands in forests & woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	Possible
Myotis yumanensis	Yuma Myotis	G5	S4?	-	-	-	Optimal habitats are open forests & woodlands w/ sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings, or crevices.	Unlikely
Neotoma lepida ssp. *intermedia*	San Diego Desert Woodrat	G5T3?	S3?	-	-	SC	Coastal scrub of So. Calif. from San Diego to San Luis Obispo Counties. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops & rocky cliffs & slopes.	Possible
Taxidea taxus	American Badger	G5	S4	-	-	SC	Most abundant in drier open stages of most shrub, forest, & herbaceous habitats, w/friable soils. Need sufficient food, friable soils, & open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	Possible

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
				Fish				
Eucyclogobius newberryi	Tidewater Goby	G3	S2S3	E	-	SC	Brackish water habitats along the Calif. coast from Agua Hedionda Lagoon, San Diego Co., to the mouth of Smith River. Found in shallow lagoons & lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	Unlikely
Gila orcuttii	Arroyo Chub	G2	S2	-	-	SC	Los Angeles Basin south coastal streams. Slow water stream sections w/mud or sand bottoms. Feeds heavily on aquatic vegetation & associated invertebrates.	Unlikely
Oncorhynchus mykiss ssp. *irideus*	Southern Steelhead - Southern California DPS	G5T2Q	S2	E	-	SC	Fed listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego Co.). Southern Steelhead likely have greater physiological tolerances to warmer water & more variable conditions.	Unlikely
				Invertebrates				
Helminthoglypta traskii traskii	Transverse Range Shoulderband Snail	G1G2T1	S1	-	-	-	Known from Santa Monica Mountains & Malibu (Magney 2009). Previously found in chaparral scrub/coastal sage scrub on uplands & riparian communities.	Likely
Aglaothorax [*Nebula*] *longipennis*	Santa Monica Shieldback Katydid	G1G2	S1S2	-	-	-	Occur nocturnally in chaparral & canyon stream bottom vegetation, in the Santa Monica Mountains, of So. Calif. Inhabit introduced iceplant and native chaparral plants.	Possible
Cicindela hirticollis ssp. *gravida*	Sandy Beach Tiger Beetle	G5T2	S1	-	-	-	Inhabits areas adjacent to non-brackish water along the coast of Calif. from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	Unlikely

Scientific Name	Common Name	G Rank[12]	S Rank	Fed	CA	CDFW[13]	Habitat Requirements	Likelihood of Occurrence[14]
Coelus globosus	Globose Dune Beetle	G1G2	S1S2	-	-	-	Inhabitant of coastal sand dune habitat, from Bodega Head in Sonoma County south to Ensenada, Mexico. Inhabits foredunes & sand hummocks; it burrows beneath the sand surface & is most common beneath dune vegetation.	Unlikely
Danaus plexippus	Monarch Butterfly	G5	S3	-	-	-	Winter roost sites extend along the coast from northern Mendocino to Baja Calif. Roosts located in wind-protected tree groves (Eucalyptus, Monterey Pine, Monterey Cypress), w/nectar & water sources nearby.	Unlikely
Socalchemmis gertschi	Gertsch's Socalchemmis Spider	G1	S1	-	-	-	Known from only 2 localities in Los Angeles County: Brentwood (type locality) & Topanga Canyon.	Possible
Trimerotropis occidentiloides	Santa Monica Grasshopper	G1G2	S1S2	-	-	-	Known only from the Santa Monica Mountains. Found on bare hillsides and along dirt trails in chaparral.	Possible

Sensitive Habitats

Sensitive habitats are plant communities that have been identified as rare or declining significantly by the CDFW (CDFW 2014). Table 11 – CNDDB Sensitive Habitats Potentially Occurring Onsite, summarizes the CNDDB search for sensitive habitat types reported for the six quads surrounding and including the project site. Table 11 provides the habitat's name, status, and whether it was observed onsite. One special-status habitat, California Walnut Woodland, was observed on the Malibu Jewish Center & Synagogue site.

Table 11 – CNDDB Sensitive Habitats Potentially Occurring Onsite

CNDDB Sensitive Habitats (CDFW 2014)	**G Rank**[15]	**S Rank**	**Fed**	**CA**	**Presence Onsite**[16]
California Walnut Woodland	G2	S2.1	-	-	**Present**
Southern California Coastal Lagoon	GNR	SNR	-	-	Not observed
Southern California Steelhead Stream	GNR	SNR	-	-	Not observed
Southern Coastal Salt Marsh	G2	S2.1	-	-	Not observed
Valley Needlegrass Grassland	G3	S3.1	-	-	Not observed
Valley Oak Woodland	G3	S2.1	-	-	Not observed

The California Coastal Commission and the City of Malibu have determined that intact habitats in the Santa Monica Mountains Coastal Zone qualify as ESHA when they are part of large contiguous areas. The Riparian and Coastal Sage Scrub communities both onsite and adjacent to the project site are mapped by the City of Malibu as ESHA. Areas within 200 feet of the mapped boundary are also considered environmentally sensitive.

DMEC has refined the mapped boundary of ESHA onsite to exclude a portion containing ruderal habitats. ESHA habitat occupies approximately 1.1 acres of the Malibu Jewish Center & Synagogue parcel/project site. See Figure 4 and 5 above for maps of ESHA and special-status species occurring in the vicinity of the project site.

[15] See Tables 4 through 7 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SC = Species of Concern.

[16] Observed [P] = Habitat present onsite [Present]; Not Observed = Habitat not present onsite though some constituents of the habitat may be present as noted; [CH] = Project footprint is within a Critical Habitat unit.

SECTION IV. IMPACTS ANALYSIS

The proposed development of the Malibu Jewish Center & Synagogue parcel will potentially result in significant impacts to biological resources. The proposed project footprint is largely within the footprint of existing structures, but also occupies 0.033 acre of Ruderal Grassland. Construction activities should not result in any permanent direct significant impacts to ESHA. However, any dumping of debris or sediments down the hillside north of the project footprint could result permanent significant impacts to ESHA.

The 200-foot-wide ESHA buffer encompasses 4.54 acres (98%) of the Malibu Jewish Center & Synagogue parcel and all existing and proposed development, as illustrated in Figure 6 – Potential Project Impacts to Vegetation Communities and ESHA. The proposed project footprint is entirely within the footprint of existing buildings and approved in 2006; therefore, no functioning natural habitat will be disturbed by construction activities within the 200-foot ESHA buffer. Construction activities may potentially result in temporary impacts to ESHA such as noise, light, and dust pollution.

Potential impacts to natural vegetation may occur as a result of fuel modification within 100 feet of the proposed structure. The 100-foot fuel modification zone creates a potentially significant conflict with the 200-foot ESHA buffer, potentially resulting in 0.37 acre of potential fuel modification within ESHA and ESHA buffer. The total direct impacts from these activities are summarized in Table 12 – Existing Habitats and Land Cover on the Project Site and Expected Impacts.

Table 12 – Existing Habitats and Land Cover on the Project Site and Expected Impacts

Existing Habitats and Land Cover Observed	Total Onsite Acres	Onsite ESHA Acres	Construction Impact Acres	ESHA Impact Acres	ESHA Buffer Impact Acres	Fuel Modification Impact Acres[17]	Total Impact Acres
Arundo Stand	0.35	0.35	0	0	0	0.05	0.05
Ruderal Grassland	0.76	0.11	0.02	0	0.02	0.40	0.40
Coastal Sage Scrub	0.03	0.03	0	0	0	0	0
Oak-Walnut Woodland	0.43	0.43	0	0	0	0.19	0.19
Oak-Sycamore Woodland	0.23	0	0	0	0	0.22	0.22
Willow Thicket	0.29	0.29	0	0	0	0.03	0.03
Developed Areas	2.54	0	0.30	0	0.3	0.94	1.24
Acreage Totals	4.64	1.21	0.32	0	0.32	0.44	0.76

[17] In addition to/beyond construction footprint.

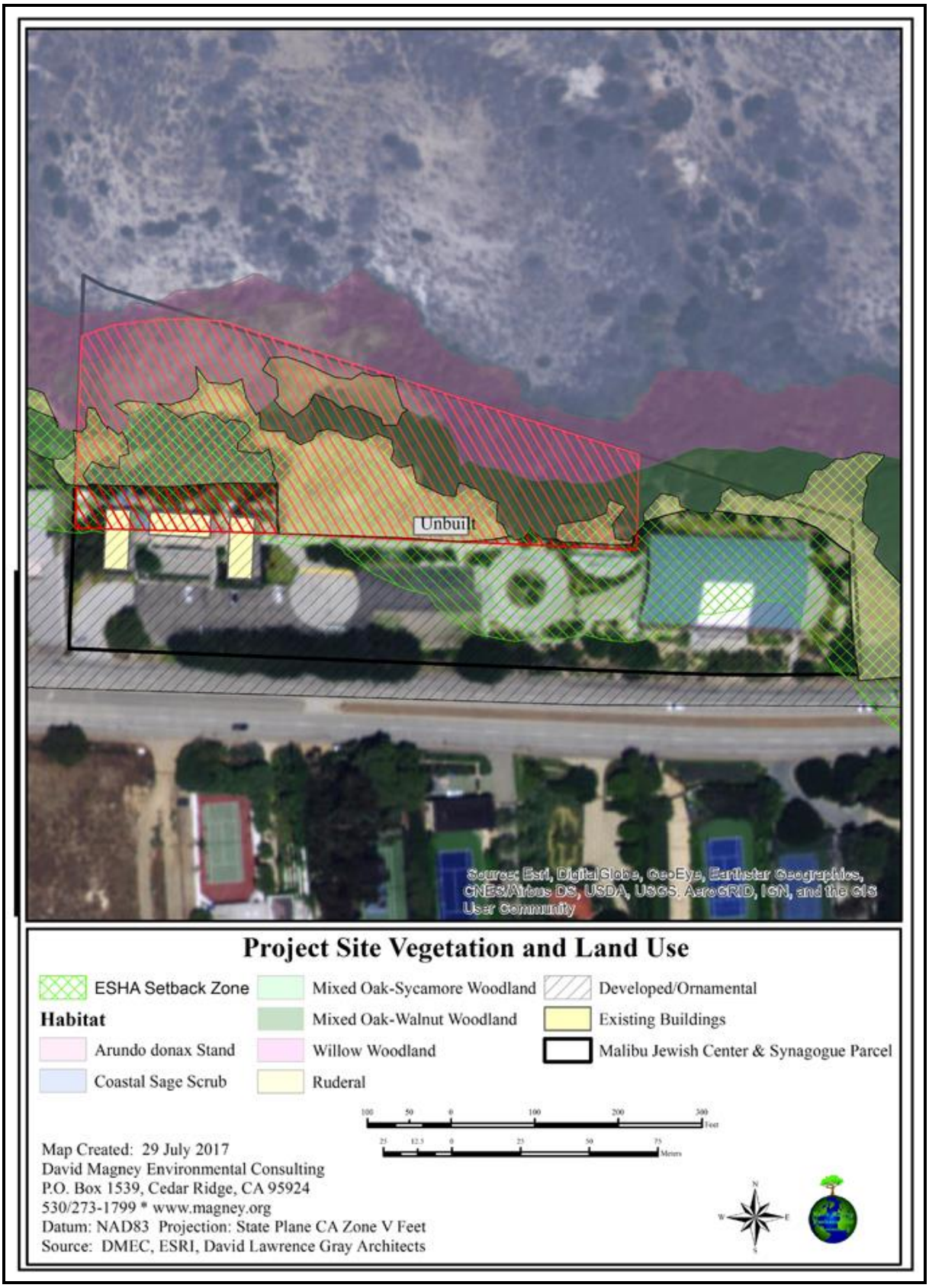
Required fuel modification, 100-foot distance from habitable buildings, covers an area of approximately 2.22 total acres, of this approximately 2.1 acres is developed or dominated by non-native species (including 0.15 acres dominated by *Arundo donax* within the ESHA boundary), as shown on Figure 6 above. The remaining 0.21 acre is ESHA dominated by native vegetation, the majority being Oak-Walnut Woodland (0.19 acre) with a small amount of Willow Thicket (0.03 acre). These Woodlands are within an existing fuel modification zone; however, construction of the proposed structures will expand the fuel modification zone further into ESHA than has been modified to date. Required fuel modification in these areas could alter and reduce habitat quality and functions.

Extensive required modification of the creek bottom understory could potentially result in loss of individuals of *Baccharis plummerae* ssp. *plummerae*. *Baccharis plummerae* ssp. *plummerae* is a CNPS list 4.3 species not mapped by the CNDDB, nor afforded any formal legal protection. However, it is considered uncommon and vulnerable within California. DMEC believes that limiting the required fuel modification within ESHA will avoid or minimize impacts to this uncommon species.

The proposed facility will require removal of two (2) native *Platanus racemosa* trees. Neither of these trees are part of high functioning habitat. The two *Platanus racemosa* trees exist on the far west end of the parcel within the toddler playground. For detailed discussion of potential impacts to native trees onsite, please refer to the Tree Assessment Report (DMEC 2017).

The special-status species with potential to be impacted by the proposed project is the Southern California Black Walnut (*Juglans californica*). Several mature individuals comprise a significant portion of intact habitat qualifying as ESHA northeast of the proposed development footprint. The 100-foot fuel modification zone creates a conflict with this natural community, and the true extent of impacts to these sensitive resources is directly dependent upon the extent of fuel modification required by the city. One mature individual exists on the northwestern corner of the proposed development. The proposed development will potentially occur within this individual's Tree Protection Zone. However, the proposed structures will be constructed almost entirely within the footprint of existing structures; therefore, little modification will occur to the Tree Protection Zone, and no significant impact is expected. Potential impacts to protected trees onsite are covered in detail in the Tree Assessment Report (DMEC 2017).

Figure 6 – Potential Project Impacts to Vegetation Communities and ESHA



SECTION V. CONCLUSIONS

The proposed school and chapel facilities will potentially result significant impacts to ESHA, ESHA buffer, and sensitive species onsite. Actions that could avoid or minimize these potential impacts are discussed below.

The proposed development and construction activities may result in permanent and temporary significant impacts to special-status species and ESHA.

Any dumping of sediments, debris, fluids, or significant runoff down the hillside just north of the project site could result in significant permanent impacts to ESHA. DMEC recommends that temporary fencing be erected prior to construction activities to prevent such impacts. This fencing will be compatible with fencing utilized to minimize impacts to Tree Protection Zones as described in the Tree Assessment Report (DMEC 2017).

The proposed development will not directly result in the loss of special-status species or ESHA; however, the required 100-foot fuel modification zone may result in alteration or degradation of special-status species and habitat functions. DMEC recommends that fuel-modification requirements be limited within ESHA. DMEC recommends that no trees or large shrubs (particularly the special-status species *Juglans californica* present onsite) be required for removal. DMEC further recommends that alteration of the understory within ESHA be limited to the minimum extent possible.

Restoration of areas dominated by *Arundo donax* and control of non-native species within ESHA onsite could serve as mitigation for any direct impacts due to fuel modification.

Construction activities could potentially result in temporary significant impacts to special-status species and ESHA onsite, such as noise, light and dust pollution. DMEC recommends that standard best management practices be used during construction activities (e.g. limiting hours of activity, hooded lighting) to minimize and avoid these impacts to the maximum extent possible.

Construction within 100 feet of active bird nests could disrupt breeding and nesting. Prior to construction, a qualified biologist should survey for active bird nests. If active bird nests are found within 100 feet of the construction zone, the behavior of the breeding/nesting birds should be monitored. If the birds are indirectly disturbed by the construction activities, then corrective measures shall be implemented to eliminate the disturbance factors, such as constructing temporary visual screens and/or sound blankets, or postpone construction activities until the young birds have fledged the nest(s). Some bird species, such as Bushtit, are quite tolerant of human activities and construction noises, and buffer zones as little as 15 feet have been sufficient to avoid harassment.

SECTION VI. ACKNOWLEDGEMENTS

This report was written by Evan Lashly and David Magney. Graphics were created by Mr. Lashly and Vickie Peters. Mr. Magney reviewed and edited this report. Ms. Peters proofread the final version of this report.

Mark Meyer of David Lawrence Gray Architects, provided guidance and assistance with the project description and provided current project plans and drawings.

Adrian Fernandez and Jennifer Brown, City of Malibu Planning Department, provided maps of ESHA for the City of Malibu.

SECTION VII. CITATIONS

REFERENCES CITED

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. Second Edition. University of California Press, Berkeley, California.

CalFire. 2014. California Fire Hazard Severity Zone; Los Angeles County, Malibu, Local Responsibility Area (LRA). Recommended May 2012. Available Online: Accessed 15 September 2014. http://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/los_angeles/Malibu.pdf.

California Department of Fish and Wildlife (CDFW). 2014. California Natural Diversity Database. Biogeographic Data Branch Sacramento, California.

California Natural Diversity Database (CNDDB). 2011. Special Animals. January. California Department of Fish and Widlife, Biogeographic Data Branch, Sacramento, California.

CNPS, Rare Plant Program. 2014. *Inventory of Rare and Endangered Plants* (online edition, v8-02). California Native Plant Society, Sacramento, CA. Available online: Accessed 9 September 2014. http://www.rareplants.cnps.org.

David Magney Environmental Consulting. 2017. Tree Protection Plan for the Malibu Jewish Center & Synagogue. 29 September 2014, Updated 12 September 2017. (PN 14-0151) Cedar Ridge, California. Prepared for the City of Malibu, California. Prepared on behalf of David Lawrence Gray Architects, Los Angeles, California.

Dixon, John. 2003. Designation of ESHA in the Santa Monica Mountains. Memorandum to Ventura Staff dated 25 March 2003. California Coastal Commission, San Francisco, California.

Flora of North America Editorial Committee, eds. 1993+. *Flora of North America North of Mexico*. Volumes 1-28 incomplete. New York and Oxford.

Hickman, J., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley, California.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41:1-42.

Magney, D.L. 2009. *Terrestrial Gastropods of Los Angeles County* as revised. The Sespe Institute, Inc.. Available at: http://www.sespeinstitute.com/PDFs/Terrestrial_Snails_of_Los_Angeles_County-20100929.pdf. Accessed 15 September 2014.

National Resource Conservation Service [NRCS]. 2014. Web Soil Survey. Soil Survey Staff, United States Department of Agriculture Natural Resource Conservation Service. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed: 11 September 2014.

Safford, H.D. and K.M. Van de Water. 2014. *Using Fire Return Interval Departure (FRID) Analysis to Measure Spatial and Temporal Changes in Fire Frequency on National Forest Lands in California*. United States Department of Agriculture. U.S Forest Service. Pacific Southwest Research Station. Research Paper PSW-RP-266.

Sawyer, J.O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. California Native Plant Society, Sacramento, California.

U.S. Forest Service. 2012. Fire Return Interval Departure 2012, South Coast, CalVeg Zone 7. GIS State Level Dataset. United States Dept. of Agriculture, U.S. Forest Service, Pacific Southwest Region. Available online: Accessed 10 September 2014. http://www.fs.usda.gov/detail/r5/landmanagement/gis/?cid=STELPRDB5327836.

Zedler, P., S. DeSimone, J. Giessow, D. Lawson, J. Else, and S. Bliss. 1997. The Plant Communities of Camp Pendleton Marine Corps Base, California. February. San Diego State University, Department of Biology, Ecology Program, San Diego, California.