

Appendix C: Biological Resources Supporting Information

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C-1: Special-status Species Tables

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Table 1: Special-status Plant Species Habitat Value Evaluation

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	—	—	1B.2	Perennial evergreen shrub found in valley and foothill grassland, coastal bluff scrub, and cismontane woodland. Elevation: 30-550 m. Blooming period: March-June	None: No suitable habitat is present within the proposed project parcels such as valley and foothill grassland, coastal bluff scrub, or cismontane woodland to support this species.
<i>Arctostaphylos silvicola</i> Bonny Doon manzanita	—	—	1B.2	Perennial evergreen shrub found in closed-cone and lower montane coniferous forests and chaparral. Elevation: 120-600 m. Blooming period: January-March	None: No suitable habitat is present within the proposed project parcels such as chaparral or coniferous forest to support this species.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	—	—	1B.1	Annual herb found in valley and foothill grassland, vernal pools, and playas. Occurs in alkaline and adobe clay soils. Elevation: 1-60 m. Blooming period: March-June	None: No suitable habitat is present within the proposed project parcels such as foothill grassland, vernal pools, playas, or suitable soils to support this species.
<i>Atriplex depressa</i> brittlescale	—	—	1B.2	Annual herb found in valley and foothill grassland, chenopod scrub, meadows and seeps, playas, and vernal pools. Occurs in alkaline and clay soils. Elevation: 1-320 m. Blooming period: April-October	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, chenopod scrub, meadows and seeps, playas, vernal pools or suitable soils to support this species.
<i>Atriplex minuscula</i> lesser saltscare	—	—	1B.1	Annual herb found in valley and foothill grassland, playas, and chenopod scrub. Occurs in alkaline and clay soils. Elevation: 15-200 m. Blooming period: May-October	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, playas, chenopod scrub, or suitable soils to support this species.
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	—	—	1B.1	Perennial herb found in valley and foothill grassland, chaparral, and cismontane woodland. Occasionally found in serpentinite soils. Elevation: 45-1555 m. Blooming period: March-June	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, chaparral, and cismontane woodland, or suitable soils to support this species.
<i>Calyptridium parryi</i> var. <i>hesseae</i> Santa Cruz Mountains pussypaws	—	—	1B.1	Annual herb found in chaparral and cismontane woodland openings. Occasionally occurs in gravelly and sandy soils. Elevation: 305-1530 m. Blooming period: May-August	None: No suitable habitat is present within the proposed project parcels such as chaparral, cismontane woodland openings, or suitable soils to support this species.

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	ESA ¹	CESA ²	CRPR ³		
<i>Castilleja affinis</i> var. <i>neglecta</i> Tiburon paintbrush	FE	CT	1B.2	Occurs in serpentine bunchgrass communities, typically on west or north-facing slopes. Elevation: 0-20 m. Blooming Period: April-June	None: No suitable habitat is present within the proposed project parcels such as serpentine bunchgrass communities suitable to sustain this species.
<i>Ceanothus ferrisiae</i> Coyote ceanothus	FE	—	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland. Serpentinite. Blooming period: January-May	None: No suitable habitat such as chaparral, coastal scrub, valley and foothill grassland within the proposed project parcels to sustain this species.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	—	—	1B.1	Annual herb found in valley and foothill grassland. Occasionally occurs in alkaline soils. Elevation: 0-32 m. Blooming Period: June-November	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, or suitable soils to support this species.
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	—	—	1B.2	Perennial bulbiferous herb found in chaparral with serpentinite soils. Elevation: 305-1000 m. Blooming period: May-August	None: No suitable habitat is present within the proposed project parcels such as chaparral, or suitable soils to support this species.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	—	—	1B.2	Annual herb found in coastal marshes and swamps. Elevation: 0-10 m. Blooming period: June-October	None: No suitable habitat is present within the proposed project parcels such as coastal marshes, swamps, or suitable soils to support this species.
<i>Chorizanthe pungens</i> var. <i>hartwegiana</i> Ben Lomond spineflower	FE	—	1B.1	Annual herb found in lower montane coniferous forests. Occurs in maritime ponderosa pine sandhills. Elevation: 90-610 m. Blooming period: April-June	None: No suitable habitat is present within the proposed project parcels such as lower montane coniferous forest to support this species.
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	FE	—	1B.1	Annual herb found in maritime chaparral, coastal dunes, coastal scrub, and cismontane woodland openings. Elevation: 3-300 m. Blooming period: April-September	None: No suitable habitat is present within the proposed project parcels such as maritime chaparral, coastal dunes, coastal scrub, or cismontane woodland openings to support this species.
<i>Cirsium fontinale</i> var. <i>campylon</i> Mt. Hamilton thistle	—	—	1B.2	Perennial herb found in valley and foothill grassland, cismontane woodland, and chaparral. Occurs in seeps and serpentinite soils. Elevation: 100-890 m. Blooming period: April-October	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, cismontane woodland, chaparral, or suitable soils to support this species.
<i>Clarkia concinna</i> ssp. <i>automixa</i> Santa Clara red ribbons	—	—	4.3	Foothill woodland Elevation: 90-1500 m. Blooming period: April-July	None: The proposed project parcels do not contain any foothill woodland to support this species.

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<i>Collinsia multicolor</i> San Francisco collinsia	—	—	1B.2	Annual herb found in coastal scrub and closed-cone coniferous forest. Occasionally occurs in serpentinite soils. Elevation: 30-275 m. Blooming period: March-May	None: No suitable habitat is present within the proposed project parcels such as coastal scrub, closed-cone coniferous forest, or suitable soils to support this species.
<i>Dirca occidentalis</i> western leatherwood	—	—	1B.2	Perennial deciduous shrub found in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland. Occurs in mesic soils. Elevation: 25-425 m. Blooming period: January-March	None: No suitable habitat is present within the proposed project parcels such as broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, or suitable soils to support this species.
<i>Dudleya abramsii</i> ssp. <i>setchellii</i> Santa Clara Valley dudleya	FE	—	1B.1	Perennial herb found in valley and foothill grassland, cismontane woodland. Occurs in rocky and serpentinite soils. Elevation: 60-535 m. Blooming period: April-October	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, cismontane woodland, or suitable soils to support this species.
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	—	—	1B.1	Annual/perennial herb found in vernal pools. Elevation: 3-45 m. Blooming period: July	None: No suitable habitat is present within the proposed project parcels such as vernal pools to support this species.
<i>Extriplex joaquinana</i> San Joaquin spearscale	—	—	1B.2	Annual herb found in valley and foothill grassland, chenopod scrub, meadows and seeps, playas. Occurs in alkaline soils. Elevation: 1-835 m. Blooming period: April-October	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, chenopod scrub, meadows or seeps, playas, or suitable soils to support this species.
<i>Fritillaria liliacea</i> fragrant fritillary	—	—	1B.2	Perennial bulbiferous herb found in coastal scrub, valley and foothill grassland, coastal prairie, and cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. Elevation: 3-410 m. Blooming period: February-April	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, coastal prairie, cismontane woodland, or suitable soils to support this species.
<i>Hoita strobilina</i> Loma Prieta hoita	—	—	1B.1	Perennial herb found in chaparral, cismontane woodland, riparian woodland. Occurs in serpentine and mesic soils. Elevation: 30-860 m. Blooming period: May-July	None: No suitable habitat is present within the proposed project parcels such as cismontane woodland or suitable soils to support this species.

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<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	—	1B.1	Annual herb found in valley and foothill grassland, cismontane woodland, alkaline playas, and vernal pools. Occurs in mesic soils. Elevation: 0-470 m. Blooming period: March-June	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, coastal prairie, cismontane woodland, or suitable soils to support this species.
<i>Lessingia micradenia</i> var. <i>glabrata</i> smooth lessingia	—	—	1B.2	Annual herb found in valley and foothill grassland, cismontane woodland, chaparral. Occurs along roadsides and in serpentinite soils. Elevation: 120-420 m. Blooming period: July-November	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, cismontane woodland, chaparral, or suitable soils to support this species.
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	—	—	1B.2	Perennial deciduous shrub found in chaparral and cismontane woodland. Elevation: 15-355 m. Blooming period: April-September	None: No suitable habitat is present within the proposed project parcels such as cismontane woodland or chaparral to support this species.
<i>Malacothamnus hallii</i> Hall's bush-mallow	—	—	1B.2	Perennial deciduous shrub found in chaparral and coastal scrub. Elevation: 10-760 m. Blooming period: May-September	None: No suitable habitat is present within the proposed project parcels such as chaparral, or coastal scrub to support this species.
<i>Monolopia gracilens</i> woodland woollythreads	—	—	1B.2	Annual herb found in openings of broadleafed upland forest, chaparral, and North Coast coniferous forest; cismontane woodland; valley and foothill grassland. Occurs in serpentinite soils. Elevation: 100-1200 m. Blooming period: March-July	None: No suitable habitat is present within the proposed project parcels such as forest openings, valley or foothill grassland, cismontane woodland, or suitable soils to support this species.
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	—	—	1B.2	Annual herb found in valley and foothill grassland, coastal scrub, meadows and seeps, vernal pools. Occurs in alkaline and mesic soils. Elevation: 3-1210 m. Blooming period: April-June	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, coastal scrub, meadows, seeps vernal pools, or suitable soils to support this species.
<i>Pedicularis dudleyi</i> Dudley's lousewort	—	SR	1B.2	Perennial herb found in valley and foothill grassland, North Coast coniferous forest, cismontane woodland, maritime chaparral. Elevation: 60-900 m. Blooming period: April-June	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, forest, woodland, or chaparral to support this species.

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<i>Penstemon rattanii</i> var. <i>kleei</i> Santa Cruz Mountains beardtongue	—	—	1B.2	Perennial herb found in lower montane and North Coast coniferous forest, chaparral. Elevation: 400-1100 m. Blooming period: May-June	None: No suitable habitat is present within the proposed project parcels such as forest or chaparral to support this species.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE	SE	1B.1	Annual herb found in serpentinite valley and foothill grassland and cismontane woodland. Elevation: 35-620 m. Blooming period: March-May	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, or cismontane woodland to support this species.
<i>Piperia candida</i> white-flowered rein orchid	—	—	1B.2	Perennial herb found in broadleaved upland forest, lower montane coniferous forest, North Coast coniferous forest. Elevation: 30-1310 m. Blooming period: May-September	None: No suitable habitat is present within the proposed project parcels such as upland forest, lower montane coniferous forest, or North Coast coniferous forest to support this species.
<i>Plagiobothrys glaber</i> hairless popcornflower	—	—	1A	Meadows and seeps in alkaline soils and marshes and swamps. Elevation: 15-180 m. Blooming period: March-May	None: The proposed project parcels do not contain meadows, seeps or marshes to support this species.
<i>Puccinellia simplex</i> California alkali grass	—	—	1B.2	Annual herb found in valley and foothill grassland, chenopod scrub, meadows and seeps, vernal pools. Occurs in alkaline and mesic soils along lake margins and flats. Elevation: 2-930 m. Blooming period: March-May	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, chenopod scrub, meadows, seeps, vernal pools, or suitable soils to support this species.
<i>Ravenella exigua</i> chaparral harebell	—	—	1B.2	Annual herb found in rocky, serpentinite chaparral. Elevation: 275-1250 m. Blooming period: May-June	None: No suitable habitat is present within the proposed project parcels such as chaparral, or suitable soils to support this species.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	—	—	1B.2	Perennial rhizomatous herb found in shallow, freshwater marshes and swamps. Elevation: 0-650 m. Blooming period: May-October	None: No suitable habitat is present within the proposed project parcels such as freshwater marshes or swamps to support this species.
<i>Sanicula saxatilis</i> rock sanicle	—	SR	1B.2	Perennial herb found in valley and foothill grassland, broad leaved upland forest, chaparral. Occurs in rocky, scree, and talus soils. Elevation: 620-1175 m. Blooming period: April- May	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, broadleaved upland forest, chaparral, or suitable soils to support this species.

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<i>Senecio aphanactis</i> chaparral ragwort	—	—	2B.2	Annual herb found in chaparral, cismontane woodland, coastal scrub. Sometimes occurs in alkaline soils. Elevation: 15-800 m. Blooming period: January-April	None: No suitable habitat is present within the proposed project parcels such as chaparral, cismontane woodland, coastal scrub, or suitable soils to support this species.
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	—	—	4.2	Found in broad-leaved upland forests, coastal prairie, coastal scrub, north coast coniferous forests, and riparian woodlands. Elevation: -65" - 4943" Blooming Period: (March) April-August	None: The proposed project parcels do not contain broad-leaved upland forests, coastal prairies, coastal scrub, or north coast coniferous forest to support this species.
<i>Streptanthus albidus ssp. albidus</i> Metcalf Canyon jewelflower	FE	—	1B.1	Annual herb found in serpentinite valley and foothill grassland. Elevation: 45-800 m. Bloom period: April-July	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, or suitable soils to support this species.
<i>Streptanthus albidus ssp. peramoenus</i> Most beautiful jewelflower	—	—	1B.2	Annual herb found in valley and foothill grassland, chaparral, and cismontane woodland. Occurs in serpentinite soils. Elevation: 95-1000 m. Bloom period: April-September	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, chaparral, cismontane woodland, or suitable soils to support this species.
<i>Suaeda californica</i> California seablite	FE	—	1B.1	Perennial evergreen shrub found in coastal marshes and swamps. Elevation: 0-15 m. Blooming period: July-October	None: No suitable habitat is present within the proposed project parcels such as marshes or swamps to support this species.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	—	—	1B.1	Annual herb found in broadleaved upland forest, cismontane woodland and coastal prairie. Elevation: 105-610 m. Blooming period: April-October	None: No suitable habitat is present within the proposed project parcels such as broadleaved upland forest, cismontane woodland, or coastal prairie. to support this species.
<i>Trifolium hydrophilum</i> saline clover	—	—	1B.2	Annual herb found in mesic, alkaline valley and foothill grassland; marshes and swamps; vernal pools. Elevation: 0-300 m. Blooming period: April-June	None: No suitable habitat is present within the proposed project parcels such as valley or foothill grassland, marsh, swamp, or vernal pools to support this species.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
Code Designations					
¹ Federal Status: 2023 Endangered Species Act (ESA) Listing			² State Status: 2023 California Endangered Species Act (CESA) Listing		³ California Rare Plant Rank (CRPR): 2023 CRPR Listing
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the Endangered Species Act. FT = Listed as threatened under the Endangered Species Act. FC = Candidate for listing (threatened or endangered) under the Endangered Species Act. FD = Delisted in accordance with the Endangered Species Act. FPD = Federally Proposed to be Delisted. MBTA = Protected by the Migratory Bird Treaty Act — = Not federally listed			SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under the Fish and Game Code. CFG = FGC =protected by Fish and Game Code 3503.5 CR = Rare in California. — = Not State-listed		Rank 1A = Plants species that presumed extinct in California. Rank 1B = Plant species that are rare, threatened, or endangered in California and elsewhere. Rank 2 = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. Rank 3 = Plants about which we need more information—A Review List Rank 4 = Plants of limited distribution—A Watch List Blooming period: Months in parentheses are uncommon.
Notes: ⁴ Habitat Description: Habitat description adapted from CNDDDB and CNPS online inventory or other specified source. ⁵ Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source. Sources: California Department of Fish and Wildlife (CDFW). 2023. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx . Accessed September 12, 2023. California Native Plant Society (CNPS). 2023. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/ . Accessed September 12, 2023. California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 6). Website: https://map.dfg.ca.gov/bios/ . Accessed September 12, 2023.					

Table 2: Special-status Wildlife Species Habitat Value Evaluation

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
Amphibians				
<i>Ambystoma californiense</i> pop. 1 California tiger salamander- central California DPS	FT	ST WL	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds, or other standing water bodies for breeding.	None: There are no historical records within 5 miles of the proposed project parcels. Preferred breeding habitats such as stock ponds and vernal pools are not present in the proposed project parcels. High development around the site lowers likelihood of presence. CTS can disperse as far as 1.3 mi from their breeding ground, making the proposed project parcels isolated from any active breeding populations.
<i>Aneides niger</i> Santa Cruz black salamander	–	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	None: No historical records of this species were found within 5 miles of the proposed project parcels. The proposed project parcels do not contain suitable habitat to support this species. These areas are devoid of deciduous, coniferous woodlands, or coastal grassland to support this species.
<i>Dicamptodon ensatus</i> California giant salamander	–	SSC	Temperate forests, rivers, freshwater lakes, and freshwater marshes in northern California.	None: The proposed project parcels do not contain suitable habitat to support this species. These areas are devoid of temperate forests, rivers, freshwater lakes, or freshwater marshes to support this species.
<i>Rana boylei</i> pop. 4 foothill yellow-legged frog- central coast DPS	FC	CE	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None: Three historic records of this species and one recent were found within 5 miles of the proposed project parcels. However, the proposed project parcels do not contain habitat to support this species given the fully developed nature of these sites.
<i>Rana draytonii</i> California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	None: One historic record of this species and five recent were found within 5 miles of the proposed project parcels. The proposed project parcels do not contain suitable habitat to support this species. The proposed project parcels are completely developed and provide no habitat value to this species.
Birds				
<i>Accipiter cooperii</i> Cooper’s hawk	– MBTA	WL FGC	Occurs and nests in deciduous and mixed forests and open woodland habitats as in canyon bottoms on river floodplains; also, live oaks. Year-round resident in California, and tolerant of urban areas with an abundance of trees.	Low: The proposed project parcels contain marginally suitable nesting habitat that could support occurrence of this species due to the presence of the Guadalupe River and Coyote Creek floodplains. There is one recent record in 2003 within five miles of the proposed project parcels (OC#85).
<i>Agelaius tricolor</i> tricolored blackbird	– MBTA	ST SSC	Occurs and nests in large freshwater marshes with dense stands of hydrophytic vegetation (cattails, bulrushes, etc.). Short-distance migrant.	None: The proposed project parcels do not contain suitable habitat to support this species. The proposed project parcels do not contain hydrophytic vegetation to support this species.

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<i>Aquila chrysaetos</i> golden eagle	– MBTA	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	None: The proposed project parcels do not contain suitable nesting or foraging habitat such as rolling foothills, mountain areas, sage-juniper flats and deserts.
<i>Ardea Herodias</i> great blue heron	– MBTA	–	Colonial nesters in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	None: The proposed project parcels do not contain suitable habitat to support this species. The proposed project parcels lack large bodies of water or provide adequate prey availability to this species or a general rookery.
<i>Athene cunicularia</i> burrowing owl	– MBTA	SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None: The proposed project parcels do not contain suitable habitat in the form of grasslands, deserts, or scrublands and is fully developed. Freeways separating the vacant land from the proposed project parcels further reduce the likelihood of occurrence.
<i>Buteo swainsoni</i> Swainson's hawk	– MBTA	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	None: The proposed project parcels do not contain suitable nesting and foraging habitat for this species such as scattered trees, juniper-sage flats, savannahs, or agricultural/ranch lands.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT	SSC	Breeds on sandy coasts and brackish inland lakes and is uncommon on fresh water.	None: The proposed project parcels lack suitable habitat to support this species. Specifically, the parcels do not contain sandy coasts or brackish inland lakes.
<i>Circus hudsonius</i> northern harrier	–	SSC	Found in open habitats including wetlands, freshwater, or alkaline marshes, prairies, grasslands, old pastures, and cultivated areas. In winter they occupy communal roosts.	None: No historical records of this species were found within 5 miles of the proposed project parcels. High development around the proposed project parcels lower likelihood of potential presence.
<i>Circus hudsonius</i> northern harrier	–	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas	None: The proposed project parcels lack meadows, wetlands, or marsh habitat to support this species.
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT	SE	Nests in riparian forest along the broad lower flood-bottoms of larger river systems. Found in riparian jungles of willow, often mixed with cottonwoods; understory consists of blackberry, nettles, and wild grape.	None: No recent occurrence of this species was located within 5 miles of the proposed project parcels. The proposed project parcels do not contain dense stands of riparian vegetation to support this species.
<i>Coturnicops noveboracensis</i> yellow rail	–	SSC	Occurs in wet meadows, shallow marshes, and agricultural fields with grassy cover or heavy stubbles with fairly short vegetation. Often nest among sedges of the genus <i>Carex</i> .	None: The proposed project parcels do not contain suitable wetland habitat to support this species.

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	ESA ¹	CESA/FGC ²		
<i>Cypseloides niger</i> black swift	–	SSC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	None: The proposed project parcels do not contain suitable bluff habitat to support this species.
<i>Elanus leucurus</i> white-tailed kite	– MBTA	FP	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Requires open grasslands, meadows, or marshes for foraging close to the isolated, dense-topped trees for nesting and perching.	None: No historical records of this species were found within 5 miles of the proposed project parcels. The proposed project parcels do not contain habitat for this species such as rolling foothills or valley margins. The sites are located in areas that have been subject to decades of urban development, which further precludes the likelihood of presence.
<i>Falco peregrinus anatum</i> American peregrine falcon	– MBTA	FP	Near wetlands, lakes, rivers, or other aquatic features. Nests on cliffs, coastal habitats or tall buildings.	None: The proposed project parcels do not contain suitable nesting habitat due to the lack of cliffs or tall buildings. There are historical records within 5 miles of the proposed project parcels. High development around the parcels lowers likelihood of presence.
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	– MBTA	SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	None: No occurrence of this species was located within 5 miles of the proposed project parcels. The parcels do not contain suitable marsh habitat for this species.
<i>Laterallus jamaicensis coturniculus</i> California black rail	– MBTA	ST FP	Occurs and nests in freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None: No recent occurrence of this species was located within 5 miles of the proposed project parcels. The parcels do not contain suitable saltwater marsh habitat for this species.
<i>Melospiza melodia pusillula</i> Alameda song sparrow	– MBTA	SSC	Resident of brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules, and other sedges, and Salicornia; also known to frequent tangles bordering sloughs.	None: No occurrence of this species is located within 5 miles of the proposed project parcels. Lack of marsh habitat precludes this species from occurring.
<i>Pandion haliaetus</i> osprey	– MBTA	–	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	None: No occurrence of this species is located within 5 miles of the proposed project parcels. The proposed project parcels do not contain habitat such as ocean shore, bays, or freshwater lakes to support this species.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
<i>Progne subis</i> purple martin	— MBTA	SSC	Found in towns, farms, semi-open country near water with isolated colonies breeding around woodland edges, clearings in mountain forest, and lowland desert. Nests in cavities, mostly old woodpecker holes, in trees (or in giant cactus in southwest). Sometimes nests in holes in buildings or cliffs.	None: No cavities within trees located in the vicinity of the parcels were observed. Furthermore, no occurrence of this species are located within 5 miles of the proposed project parcels.
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE	SE FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	None: No occurrence of this species is located within 5 miles of the proposed project parcels. Lack of marsh habitat precludes this species.
<i>Rynchops niger</i> black skimmer	— MBTA	SSC	Occurs and nests on gravel bars, low islets, and sandy beaches, in unvegetated sites.	None: No occurrence of this species is located within 5 miles of the proposed project parcels. Lack of bars, islets, or sandy soils habitat preclude this species.
<i>Sternula antillarum browni</i> California least tern	FE MBTA	SE FP	Nests along the coast from San Francisco Bay south to northern Baja California. A colonial breeder on bare or sparsely vegetated, flat substrates, sand beaches, alkali flats, landfills, or paved areas.	None: No occurrence of this species is located within 5 miles of the proposed project parcels. The proposed project parcels do not contain suitable habitat such as sand beaches, alkali flats, or landfills.
Fish				
<i>Oncorhynchus kisutch</i> pop. 4 coho salmon - central California coast ESU	FE	SE	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water & sufficient dissolved oxygen.	None: No suitable habitat is present within the proposed project parcels. Lack of suitable aquatic features on site precludes presence.
<i>Oncorhynchus mykiss irideus</i> pop. 8 steelhead - central California coast DPS	FT	—	Populations in the Sacramento and San Joaquin rivers and their tributaries.	None: The proposed project parcels do not contain habitat suitable for this species. No freshwater systems run through the either of the parcels.
<i>Spirinchus thaleichthys</i> longfin smelt	FC	ST	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater.	None: The proposed project parcels do not contain habitat suitable for this species. No freshwater systems run through the either of the parcels.
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	—	SC	Occurs in grassland and scrubland habitats. Nests in abandoned rodent burrows.	None: The proposed project parcels are within known range of this species. However, high levels of urban development around the sites and lack of host species precludes presence.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
<i>Bombus occidentalis</i> western bumble bee	—	SC	Formerly found in large parts of California but has been reduced in abundance and is now mostly restricted to high meadows or coastal environments. Species requires floral resources, and undisturbed nest and overwintering sites	None: The proposed project parcels is within known range of this species. However, high levels of urban development around the sites and a lack of high meadows, coastal environments, or appropriate floral resources precludes presence.
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	FT	—	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurscens</i> are the secondary host plants.	None: The proposed project parcels do not contain grasslands, serpentine soil, or host plants to support this species.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE	—	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	None: No historical records of this species were found within 5 miles of the proposed project parcels. The proposed project parcels do not contain the required aquatic features, including vernal pools to support this species.
<i>Trimerotropis infantilis</i> Zayante band-winged grasshopper	FE	—	Found in only in a small area of the Santa Cruz Mountains in California known as the Zayante sand hills.	None: No historical records of this species were found within 5 miles of the proposed project parcels. Lack of suitable habitat and high level of disturbance at sites preclude presence. Lack of Zayante sand hills.
Mammals				
<i>Antrozous pallidus</i> pallid bat	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures and include trees and buildings. Species is very sensitive to disturbance of roosting sites.	Low: Trees exist adjacent to the proposed project parcels that may provide marginally suitable roosting habitat. Riparian corridors in the near vicinity of the proposed project parcels may provide marginally suitable foraging habitat. However, no recent occurrences of this species were recorded within 5 miles of the proposed project parcels. High levels of development within the parcels reduces the likelihood of presence, but the species cannot be completely ruled out.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	—	SSC	Throughout California in a wide variety of habitats. Most common in areas associated with mixed conifer forest, desert scrub, or pine forest habitat. Roosts in caves, mines, and buildings. Extremely sensitive to human disturbance.	None: The proposed project parcels do not contain suitable habitat in the form of conifer forest, desert scrub or pine forest habitat. Furthermore, high levels of disturbance and noise onsite from adjacent freeway and roads preclude presence.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	—	SSC	Forest habitats of moderate canopy & moderate to dense understory. May prefer chaparral & redwood habitats. Constructs nests of shredded grass, leaves & other material. May be limited by availability of nest-building materials.	None: No recent occurrence of this species was recorded within 5 miles of the proposed project parcels. The proposed project parcels do not contain suitable forested or chaparral habitat to support this species. No woodrat nests were observed during the field survey.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	FE	SE FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	None: No occurrence of this species was recorded within 5 miles of the proposed project parcels. The proposed project parcels do not contain pickleweed habitat to support this species.
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	—	SSC	Salt marshes of the southern portion of the San Francisco Bay. Marsh, wetland, or swamps with <i>Salicornia</i> and abundant driftwood.	None: No recent occurrence of this species was recorded within 5 miles of the proposed project parcels. The proposed project parcels do not contain marsh, wetland, or swamp habitat to support this species.
<i>Taxidea taxus</i> American badger	—	SSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires sufficient food sources (rodents), friable soils, and open, uncultivated ground. Digs large burrows.	None: No occurrence of this species was recorded within 5 miles of the proposed project parcels. The proposed project parcels do not contain shrub, forest habitat, or suitable soils to support this species.
Reptiles				
<i>Anniella pulchra</i> Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None: The proposed project parcels are fully developed and do not contain habitat with high soil moisture to support this species. No recent occurrences of this species was recorded within 5 miles of the proposed project parcels.
<i>Emys marmorata</i> western pond turtle	—	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	None: No suitable breeding or upland habitat is present within the proposed project parcels. While the proposed project parcels are located near the Guadalupe River and Coyote Creek the parcels are fully developed and are devoid of any habitat value for this species. Moreover, significant barriers (e.g., freeways, highly trafficked City roads, chain-link fencing) between the proposed project parcels and the Guadalupe River and Coyote Creek further preclude the presence of this species.
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT	—	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	None: No occurrences of this species was recorded within 5 miles of the proposed project parcels. Lack of suitable habitat and high level of disturbance at parcels preclude presence. Lack of chaparral and scrub habitat onsite.
<i>Phrynosoma blainvillii</i> coast horned lizard	—	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	None: No occurrence of this species was recorded within 5 miles of the proposed project parcels. The proposed project parcels do not contain suitable habitat such as sandy washes to support this species.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
Code Designations				
¹ Federal Status: 2023 Endangered Species Act (ESA) Listing			² State Status: 2023 California Endangered Species Act (CESA) Listing	
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the Endangered Species Act. FT = Listed as threatened under the Endangered Species Act. FC = Candidate for listing (threatened or endangered) under the Endangered Species Act. FD = Delisted in accordance with the Endangered Species Act. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed			SE = Listed as endangered under CESA. ST = Listed as threatened under CESA. SSC = Species of Special Concern as identified by the CDFW. SC = Species is a candidate for CESA FP = Listed as fully protected under the Fish and Game Code. CFG = FGC = protected by Fish and Game Code 3503.5 CR = Rare in California. — = Not State-listed	
Notes: ³ Habitat Description: Habitat description adapted from CNDDDB or other specified source. ⁴ Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source. Sources: California Department of Fish and Wildlife (CDFW). 2023. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx . Accessed September 12, 2023. California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 6). Website: https://map.dfg.ca.gov/bios/ . Accessed September 12, 2023.				

C-2: Database Searches

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Los Gatos) OR Santa Teresa Hills OR San Jose East OR San Jose West OR Calaveras Reservoir OR Mountain View OR Castle Rock Ridge OR Cupertino OR Milpitas

Table with 7 columns: Species, Element Code, Federal Status, State Status, Global Rank, State Rank, Rare Plant Rank/CDFW SSC or FP. Rows include species like Accipiter cooperii, Adela oplerella, Agelaius tricolor, etc.



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<i>Calasellus californicus</i> An isopod	ICMAL34010	None	None	G2	S3	
<i>Calyptidium parryi var. hesseae</i> Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
<i>Centromadia parryi ssp. congdonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Chlorogalum pomeridianum var. minus</i> dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
<i>Chloropyron maritimum ssp. palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Chorizanthe pungens var. hartwegiana</i> Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
<i>Chorizanthe robusta var. robusta</i> robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium fontinale var. campylon</i> Mt. Hamilton thistle	PDAST2E163	None	None	G2T2	S2	1B.2
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S2	SSC
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S3	SSC
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Dudleya abramsii ssp. setchellii</i> Santa Clara Valley dudleya	PDCRA040Z0	Endangered	None	G4T2	S2	1B.1
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Eryngium aristulatum var. hooveri</i> Hoover's button-celery	PDAP10Z043	None	None	G5T1	S1	1B.1
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S3	
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S2	
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
<i>Lessingia micradenia var. glabrata</i> smooth lessingia	PDAST5S062	None	None	G2T2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
<i>Malacothamnus hallii</i> Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2T3	S2	SSC
<i>Microcina homi</i> Hom's micro-blind harvestman	ILARA47020	None	None	G1	S2	
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
North Central Coast Drainage Sacramento Sucker/Roach River North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T3Q	S3	
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Pedicularis dudleyi</i> Dudley's lousewort	PDSCR1K180	None	Rare	G2	S2	1B.2
<i>Penstemon rattanii var. kleei</i> Santa Cruz Mountains beardtongue	PDSCR1L5B1	None	None	G4T2	S2	1B.2
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G4	S4	SSC
<i>Piperia candida</i> white-flowered rein orchid	PMORC1X050	None	None	G3?	S3	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Plagiobothrys glaber</i> hairless popcornflower	PDBOR0V0B0	None	None	GX	SX	1A
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
<i>Rana boylei pop. 4</i> foothill yellow-legged frog - central coast DPS	AAABH01054	Proposed Threatened	Endangered	G3T2	S2	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Ravenella exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
<i>Rynchops niger</i> black skimmer	ABNNM14010	None	None	G5	S2	SSC
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Sanicula saxatilis</i> rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus albidus ssp. albidus</i> Metcalf Canyon jewelflower	PDBRA2G011	Endangered	None	G2T1	S1	1B.1
<i>Streptanthus albidus ssp. peramoenus</i> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<i>Suaeda californica</i> California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database






Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Trifolium buckwestiorum</i> Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Trimerotropis infantilis</i> Zayante band-winged grasshopper	IIORT36030	Endangered	None	G1	S1	
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	

Record Count: 106

Search Results

8 matches found. Click on scientific name for details

Search Criteria: Fed List is one of [FE:FT:FC:FD] or State List is one of [CE:CT:CR:CC:CD] , CA Indigenous is True, 9-Quad include [3712146:3712126:3712136:3712128:3712127:3712137:3712138:3712147:3712148]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	CA RARE			DATE ADDED	PHOTO
								STATE RANK	PLANT RANK	CA ENDEMIC		
<u>Castilleja affinis var. neglecta</u>	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	FE	CT	G4G5T1T2	S1S2	1B.2	Yes	1974-01-01	No Photo Available
<u>Ceanothus ferrisiae</u>	Coyote ceanothus	Rhamnaceae	perennial evergreen shrub	Jan-May	FE	None	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
<u>Chorizanthe robusta var. robusta</u>	robust spineflower	Polygonaceae	annual herb	Apr-Sep	FE	None	G2T1	S1	1B.1	Yes	1980-01-01	No Photo Available
<u>Dudleya abramsii ssp. setchellii</u>	Santa Clara Valley dudleya	Crassulaceae	perennial herb	Apr-Oct	FE	None	G4T2	S2	1B.1	Yes	1988-01-01	No Photo Available
<u>Lasthenia conjugens</u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	FE	None	G1	S1	1B.1	Yes	1974-01-01	 © 2013 Neal Kramer
<u>Sanicula saxatilis</u>	rock sanicle	Apiaceae	perennial herb	Apr-May	None	CR	G2	S2	1B.2	Yes	1974-01-01	 © 1998 John Game
<u>Streptanthus albidus ssp. albidus</u>	Metcalf Canyon jewelflower	Brassicaceae	annual herb	Apr-Jul	FE	None	G2T1	S1	1B.1	Yes	1974-01-01	 Photo of Streptanthus albidus ssp. albidus © 2015 Aaron Schusteff
<u>Suaeda californica</u>	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	FE	None	G1	S1	1B.1	Yes	1988-01-01	No Photo Available

Showing 1 to 8 of 8 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 12 September 2023].

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C-3: SCVHP Coverage Screening Forms

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SANTA CLARA VALLEY
HABITAT AGENCY



City of Gilroy

City of Morgan Hill

City of San José

County of Santa Clara

Santa Clara Valley Water District

Santa Clara Valley
Transportation Authority

Santa Clara Valley Habitat Plan COVERAGE SCREENING FORM

Habitat Plan Application File Number
(Assigned by jurisdiction)

Planning Office File Number
(Assigned by jurisdiction)

To determine if a project is eligible for coverage under the Santa Clara Valley Habitat Plan ("Habitat Plan"), complete and submit this form to the planning or building office of the applicable local jurisdiction (County of Santa Clara, City of Gilroy, City of Morgan Hill, or City of San José) as soon as possible in the development process.

This form is used to evaluate if a private development project located within the Habitat Plan Permit Area is classified as a "covered project" under the Habitat Plan. Certain projects within the Habitat Plan Permit Area may **not** be covered projects under the Habitat Plan due to their location and size. This form is used to determine one of two conclusions and courses of action regarding a proposed project:

(1) A project **is not** a covered project under the Habitat Plan. Submit this form to the applicable local jurisdiction. No additional action regarding the Habitat Plan is needed.¹

(2) A project **is** a covered project under the Habitat Plan. Submit this form to the applicable planning or building office along with the Application for Private Projects when submitting applications for planning approvals.

1. Project Type (subdivision, conditional use permit, etc.) Proposed Billboard

2. Project Location (address / Assessor's Parcel Number) SE corner of Hwy 87 and West Mission Street. APN 259-04-019

3. Project Description (including proposed use) Clear Channel Outdoor (Applicant) is proposing to build one double-sided electronic billboard on a City-owned property.

A. Project Location

On the Private Development Areas map², where is the project located? (check the applicable box below)

Area 1: Private Development Covered Go to Question C, page 2

Area 2: Rural Development Equal to or Greater Than 2 Acres Covered Go to Question B, page 2

Area 3: Rural Development Not Covered Go to Conclusion 1, page 3

Area 4: Urban Development Equal to or Greater Than 2 Acres Covered Go to Question B, page 2

¹ See disclaimer under Conclusion 1 below regarding Endangered Species Act requirements.

² The Private Development Areas map can be viewed on the Habitat Agency Geobrowser at www.hcpmaps.com or at each of the planning and building offices (County of Santa Clara, City of Gilroy, City of Morgan Hill, or City of San José).

B. Size of the Permanently Disturbed Footprint

What is the total size of the permanently disturbed footprint (not parcel size; see box below), in acres?

0.0006 acres

If the size of the permanently disturbed area is less than 2 acres, go to Conclusion 1, page 3.

If the size of the permanently disturbed area is 2 acres or greater, go to Conclusion 2, page 3.

Calculating the Size of the Permanently Disturbed Footprint: *The permanently disturbed area is not the parcel size. It is determined by calculating the total land area that will be permanently affected by the proposed development project.*

This area includes all new buildings, new impervious surfaces (parking areas, roads, sidewalks, pools, etc.), and other areas that will be permanently affected by the project (lawns or formal landscaping areas, etc.). Refer to Exhibit A for calculating the Permanently Disturbed Footprint.

This area shall be shown on plans submitted with this Coverage Screening Form.

If necessary, the planning or building office reviewing this Coverage Screening Form may require this area to be calculated by a licensed professional (architect, engineer, surveyor) to verify accuracy.

C. Additions³

- i. Is the project site currently developed? YES Go to Question ii below
 NO Go to Conclusion 2, page 3
- ii. Does the project consist of total new impervious surface less than 5,000 square feet. YES Provide area below in iii and go to Conclusion 1, page 3
 NO Go to Conclusion 2, page 3
- iii. What is the total impervious surface (see box below) that will be added (in square feet)? _____

Calculating Impervious Surface: *New impervious surfaces include all new buildings and paved areas (asphalt and concrete), such as parking areas, driveways, roads, sidewalks and pools.*

This area shall be shown on the plans submitted with this Coverage Screening Form.

If necessary, the planning department reviewing the Coverage Screening Form may require impervious surface area to be calculated by a licensed professional (architect, engineer, surveyor) to verify accuracy.

³ A developed site means a site has existing permanent improvements, such as buildings and impervious areas, that were legally established prior to the Operative Date of the Habitat Plan (October 14, 2013). Review of building permits or aerial photos may be required by the planning department for verification.

CONCLUSION 1 Project **is not** a covered project under the Habitat Plan.

Submit this Coverage Screening Form to the planning or building office with the applicable planning application (such as use permit, subdivision, etc.) for the project. Planning staff will evaluate and confirm the project is not a Covered Project. Verification of the absence of sensitive habitats, which may include photos and aerials of the site, may be required.

Sensitive Habitats: If the proposed project affects any wildlife and/or plant species covered by the Habitat Plan, or any unmapped burrowing owl occupied nesting habitat, serpentine, riparian, stream, pond, or wetland land covers on the property, then coverage under the Habitat Plan is required. Go to Conclusion 2, below.

Projects that are not covered projects under the Habitat Plan must still comply with Federal and State Endangered Species Act requirements. If a project has the potential to take a federally or state-listed plant or wildlife species, the applicant must contact the U.S. Department of Fish and Wildlife and/or the California Department of Fish and Wildlife to determine whether an endangered species permit should be obtained.

CONCLUSION 2 Project **is** a covered project under the Habitat Plan.

Submit this Coverage Screening Form to the planning or building office with the planning application (such as use permit, subdivision, etc.). Work with planning or building office staff to complete the *Application for Private Projects*, which includes the *Fees and Conditions Worksheet*—a planning tool that provides guidance for land cover mapping requirements, fees, and conditions that may apply to your project.

Property Owner _____

Property Owner Signature _____ Date _____

Applicant _____

Applicant Signature _____ Date _____

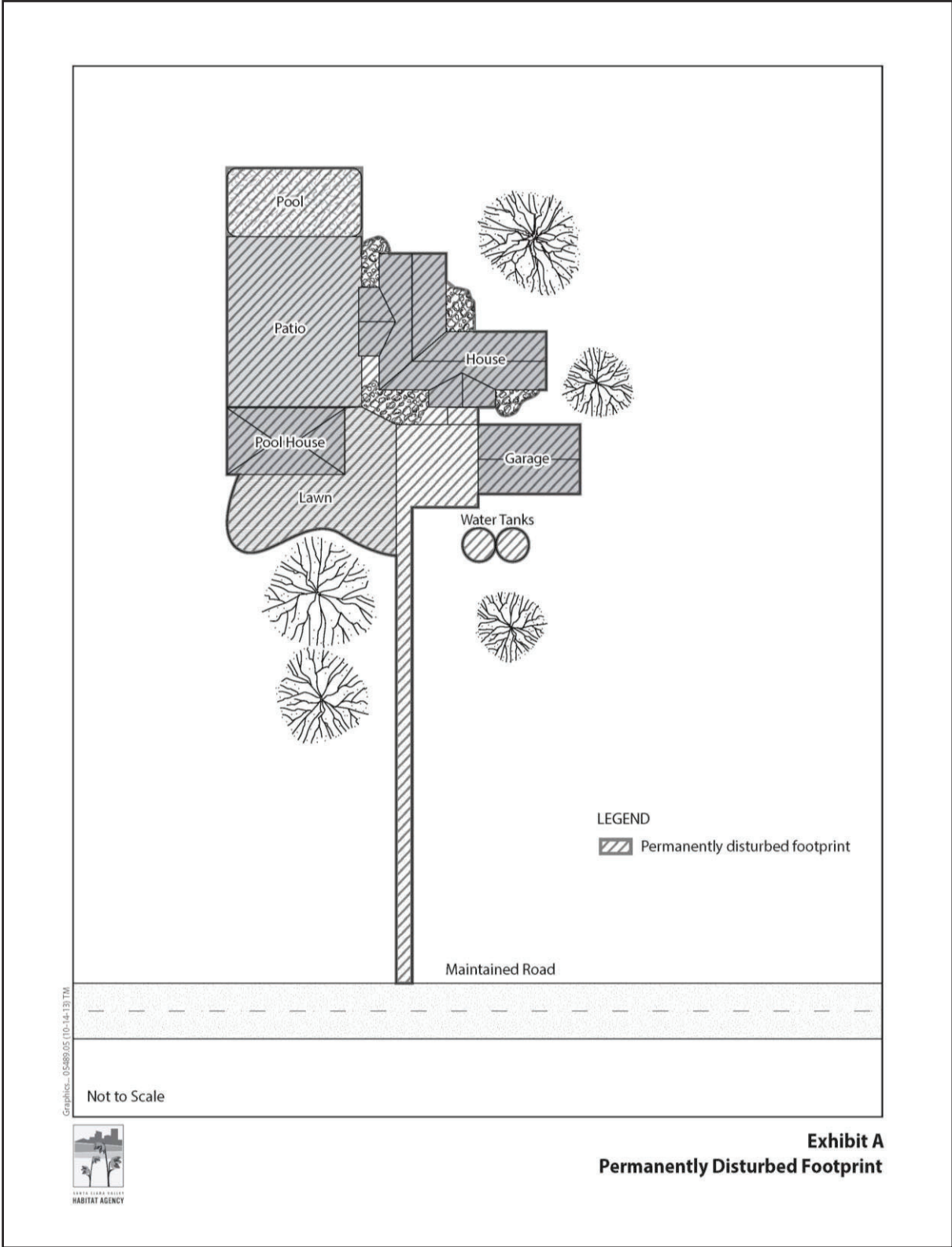
Planning/Building Office Contact Information

City of Gilroy 7351 Rosanna St. Gilroy, CA 95020 Tel: (408) 846-0451 Fax: (408) 846-0429 www.ci.gilroy.ca.us/planning	City of Morgan Hill 17575 Peak Ave. Morgan Hill, CA 95037 Tel: (408) 778-6480 Fax: (408) 779-7236 www.morganhill.ca.gov	City of San Jose 200 E. Santa Clara St., T-3 San Jose, CA 95113 Tel: (408) 535-3555 Fax: (408) 292-6055 www.sanjoseca.gov/planning	County of Santa Clara 70 West Hedding St., 7th Floor San Jose, CA 95110 Tel: (408) 299-5770 Fax: (408) 288-9798 www.sccplanning.org
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If the project is not a covered project under the Habitat Plan and “opt-in” coverage from the Habitat Plan is desired, work with the applicable planning or building office to complete the Application for Private Projects and submit it to the planning or building office with the planning application. Opt-in coverage is not guaranteed and will be authorized by the local jurisdiction in consultation with the Habitat Agency.

For Staff Verification Use Only			
Project is Covered <input type="checkbox"/>	Project is Not Covered <input type="checkbox"/>	No Sensitive Habitats Located on Project Site <input type="checkbox"/>	Date _____
Project Planner _____			
Phone Number _____		Email _____	

SOURCES FOR THIS FORM: This form incorporates the policies contained within Chapter 2, *Land Use and Covered Activities*, of the Santa Clara Valley Habitat Plan, specifically subsection *Private Development Subject to the Plan*, beginning on Page 2-42.



Note: The permanently disturbed footprint, as shown in Exhibit A, is used to determine if your project is eligible for coverage under the Habitat Plan. Please refer to the Fees and Conditions Worksheet Exhibit 1 to determine how to calculate fees, impacts, and conditions if your project is eligible for coverage under the Habitat Plan.



SANTA CLARA VALLEY
HABITAT AGENCY



City of Gilroy

City of Morgan Hill

City of San José

County of Santa Clara

Santa Clara Valley Water District

Santa Clara Valley
Transportation Authority

Santa Clara Valley Habitat Plan COVERAGE SCREENING FORM

Habitat Plan Application File Number
(Assigned by jurisdiction)

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(1) A project **is not** a covered project under the Habitat Plan. Submit this form to the applicable local jurisdiction. No additional action regarding the Habitat Plan is needed.¹

(2) A project **is** a covered project under the Habitat Plan. Submit this form to the applicable planning or building office along with the Application for Private Projects when submitting applications for planning approvals.

1. Project Type (subdivision, conditional use permit, etc.) _____

2. Project Location (address / Assessor’s Parcel Number) _____

3. Project Description (including proposed use) _____

A. Project Location

On the Private Development Areas map², where is the project located? (check the applicable box below)

Area 1: Private Development Covered Go to Question C, page 2

Area 2: Rural Development Equal to or Greater Than 2 Acres Covered Go to Question B, page 2

Area 3: Rural Development Not Covered Go to Conclusion 1, page 3

Area 4: Urban Development Equal to or Greater Than 2 Acres Covered Go to Question B, page 2

¹ See disclaimer under Conclusion 1 below regarding Endangered Species Act requirements.

² The Private Development Areas map can be viewed on the Habitat Agency Geobrowser at www.hcpmaps.com or at each of the planning and building offices (County of Santa Clara, City of Gilroy, City of Morgan Hill, or City of San José).

B. Size of the Permanently Disturbed Footprint

What is the total size of the permanently disturbed footprint (not parcel size; see box below), in acres?

If the size of the permanently disturbed area is less than 2 acres, go to Conclusion 1, page 3.

If the size of the permanently disturbed area is 2 acres or greater, go to Conclusion 2, page 3.

Calculating the Size of the Permanently Disturbed Footprint: *The permanently disturbed area is not the parcel size. It is determined by calculating the total land area that will be permanently affected by the proposed development project.*

This area includes all new buildings, new impervious surfaces (parking areas, roads, sidewalks, pools, etc.), and other areas that will be permanently affected by the project (lawns or formal landscaping areas, etc.). Refer to Exhibit A for calculating the Permanently Disturbed Footprint.

This area shall be shown on plans submitted with this Coverage Screening Form.

If necessary, the planning or building office reviewing this Coverage Screening Form may require this area to be calculated by a licensed professional (architect, engineer, surveyor) to verify accuracy.

C. Additions³

- i. Is the project site currently developed? **YES** Go to Question ii below
 NO Go to Conclusion 2, page 3
- ii. Does the project consist of total new impervious surface less than 5,000 square feet. **YES** Provide area below in iii and go to Conclusion 1, page 3
 NO Go to Conclusion 2, page 3
- iii. What is the total impervious surface (see box below) that will be added (in square feet)? _____

Calculating Impervious Surface: *New impervious surfaces include all new buildings and paved areas (asphalt and concrete), such as parking areas, driveways, roads, sidewalks and pools.*

This area shall be shown on the plans submitted with this Coverage Screening Form.

If necessary, the planning department reviewing the Coverage Screening Form may require impervious surface area to be calculated by a licensed professional (architect, engineer, surveyor) to verify accuracy.

³ A developed site means a site has existing permanent improvements, such as buildings and impervious areas, that were legally established prior to the Operative Date of the Habitat Plan (October 14, 2013). Review of building permits or aerial photos may be required by the planning department for verification.

CONCLUSION 1 Project **is not** a covered project under the Habitat Plan.

Submit this Coverage Screening Form to the planning or building office with the applicable planning application (such as use permit, subdivision, etc.) for the project. Planning staff will evaluate and confirm the project is not a Covered Project. Verification of the absence of sensitive habitats, which may include photos and aerials of the site, may be required.

Sensitive Habitats: If the proposed project affects any wildlife and/or plant species covered by the Habitat Plan, or any unmapped burrowing owl occupied nesting habitat, serpentine, riparian, stream, pond, or wetland land covers on the property, then coverage under the Habitat Plan is required. Go to Conclusion 2, below.

Projects that are not covered projects under the Habitat Plan must still comply with Federal and State Endangered Species Act requirements. If a project has the potential to take a federally or state-listed plant or wildlife species, the applicant must contact the U.S. Department of Fish and Wildlife and/or the California Department of Fish and Wildlife to determine whether an endangered species permit should be obtained.

CONCLUSION 2 Project **is** a covered project under the Habitat Plan.

Submit this Coverage Screening Form to the planning or building office with the planning application (such as use permit, subdivision, etc.). Work with planning or building office staff to complete the *Application for Private Projects*, which includes the *Fees and Conditions Worksheet*—a planning tool that provides guidance for land cover mapping requirements, fees, and conditions that may apply to your project.

Property Owner _____

Property Owner Signature _____ Date _____

Applicant _____

Applicant Signature _____ Date _____

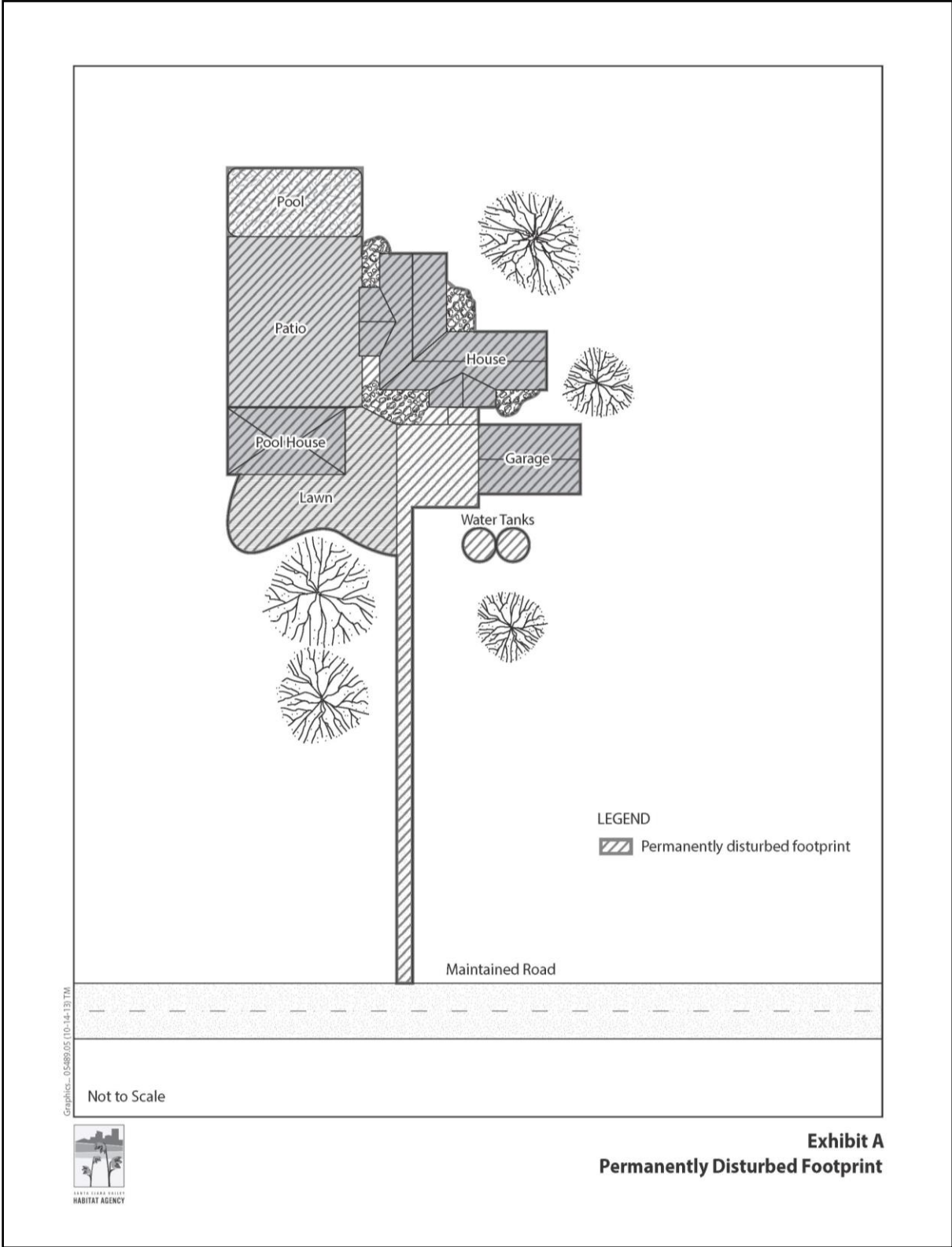
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For Staff Verification Use Only			
Project is Covered <input type="checkbox"/>	Project is Not Covered <input type="checkbox"/>	No Sensitive Habitats Located on Project Site <input type="checkbox"/>	Date _____
Project Planner _____			
Phone Number _____		Email _____	

SOURCES FOR THIS FORM: This form incorporates the policies contained within Chapter 2, *Land Use and Covered Activities*, of the Santa Clara Valley Habitat Plan, specifically subsection *Private Development Subject to the Plan*, beginning on Page 2-42.



Note: The permanently disturbed footprint, as shown in Exhibit A, is used to determine if your project is eligible for coverage under the Habitat Plan. Please refer to the Fees and Conditions Worksheet Exhibit 1 to determine how to calculate fees, impacts, and conditions if your project is eligible for coverage under the Habitat Plan.

C-4: SITELINE Analysis Mabury Road Project Site

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Re: Use of SITELINE digital display at 1404 Mabury Road, San Jose, CA

To whom it may concern,

Media Resources Inc. has been engaged by Clear Channel Outdoor to review and assess the lighting impact of the proposed digital billboard installation at 1404 Mabury Road. This document will describe the brightness management features of our digital billboards as well as provide details on the VISIONiQ SITELINE principles of operation.

Background on Media Resources Digital Display Ambient-Aware Brightness Controls

During dusk, dawn, or cloudy days, the operation of the digital display according to ambient light readings is the ideal way to maintain a glare-free, light-trespass free image. Media Resources digital billboards are all equipped with factory-mounted dual photocell sensors that are redundant and capable of reading ambient brightness even if one unit suffers a hardware failure. The ambient brightness to output brightness response curves have been carefully developed into a standard to provide good readability on the display while keeping in line with the brightness of the overall visual context.

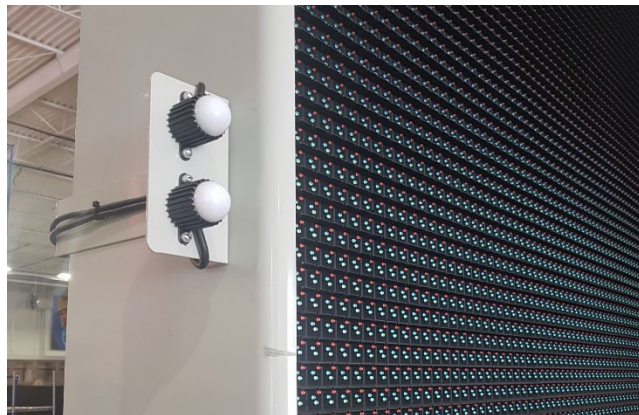


Figure 1. Media Resources standard - dual ambient brightness measuring photocells for hardware redundancy

During night-time, brightness control becomes critical as the digital billboards must be operated at a small percentage of its maximum brightness in order to avoid glare or light trespass. Media Resources endeavors to have the most comprehensive system of safeties and traceability for night-time brightness management. The proposed digital billboards are well equipped with modern brightness controls. Besides the redundant photocells above, a number of secondary fail-safes are also implemented including a communications watchdog (automatic reduction to night-time brightness in the event of a communication loss), and fallback to a location/season aware time-based schedule in the event of catastrophic photocell system failure. With these safety features in place, it becomes extremely unlikely for the digital billboard to operate at high brightness levels at night.

Additionally, the Media Resources Network Operations Centre can monitor brightness and recall brightness history for traceability. See Figure 2 and Figure 3 below on our internal control system for configuring brightness and recalling brightness history.

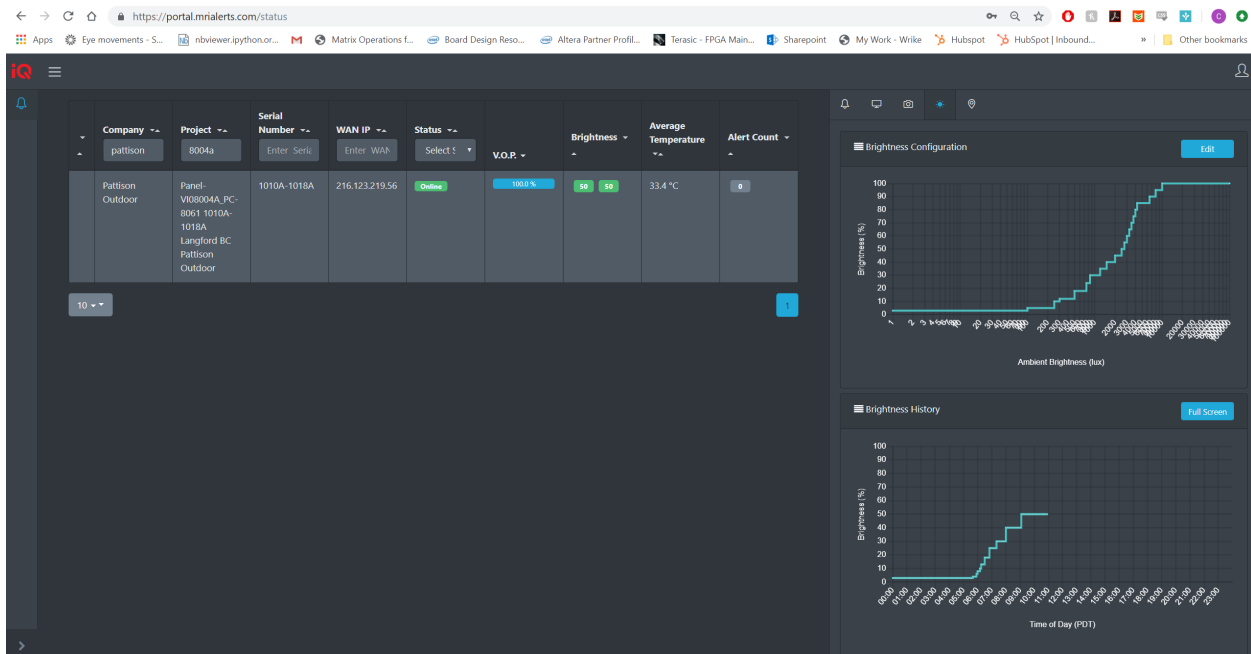


Figure 2. Media Resources web portal showing brightness configuration and history of the current day

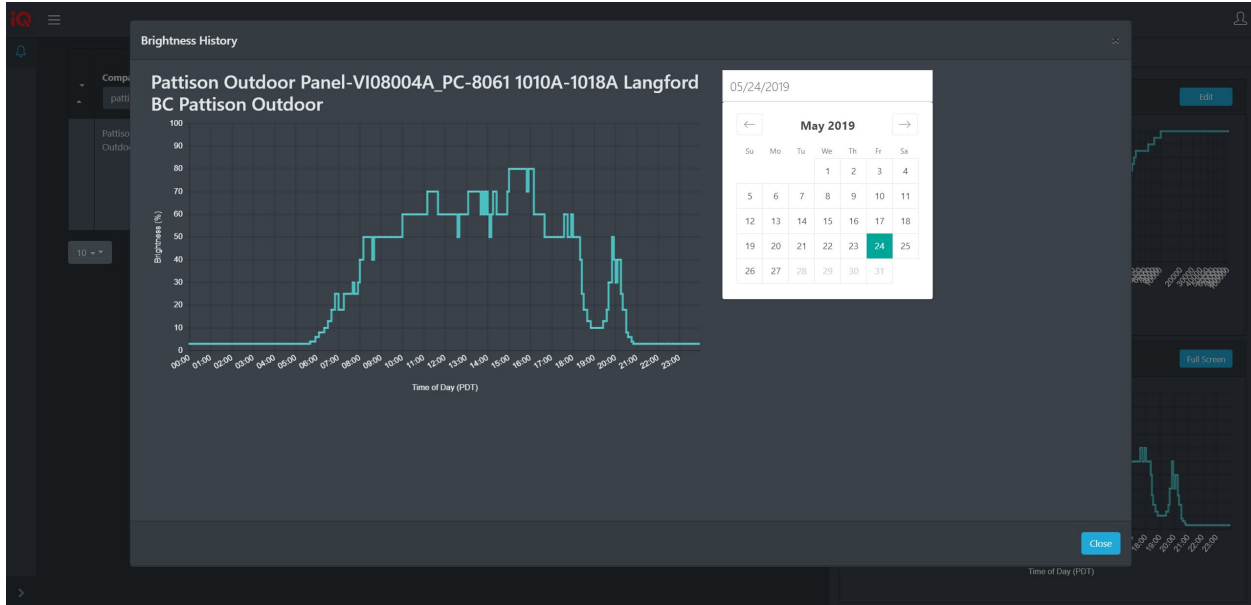


Figure 3. Media Resources web portal showing brightness history of any selected previous date. Brightness history data is logged indefinitely on Media Resources servers.

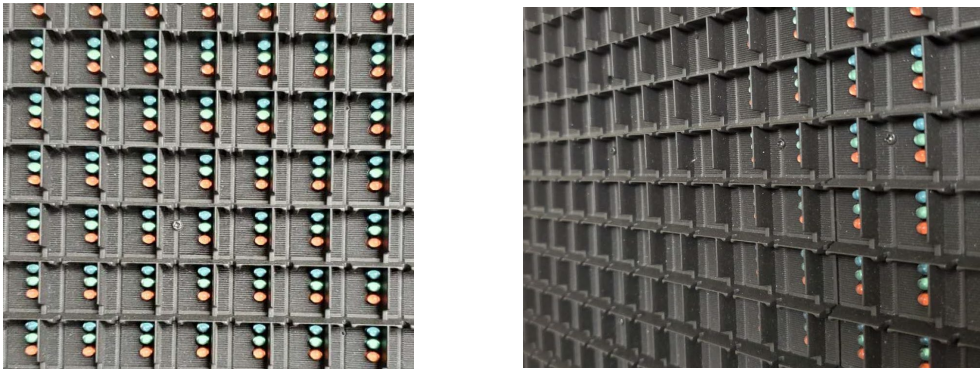
SITELINE and Site Specific Considerations

Media Resources Inc. invented the SITELINE product specifically to address the issues surrounding individual areas where light emission into nearby areas is undesirable.

The SITELINE system employs a patent-pending mechanical baffle system similar to luminaire baffles to eliminate all projection of light from the Light Emitting Diodes (LEDs) into a “protected region”. As a result, the protection is physical (See Figure 4 and 5) – reliable, permanent, and not the outcome of any programming or settings.

As can easily be seen in the figures below, the mechanical baffles/louvers (made of matte-finished black polymer) do not have the effect of any optical focusing or re-direction of light, and thus do not increase the light emission from the LEDs in any direction. They serve strictly as carefully configured mechanical baffles which absorb the light from the LEDs and prevent its passage in the protected direction. A specified NITS value of the display is the maximum output in any direction and is therefore the upper bound on luminance. Any statement suggesting that the SITELINE system can increase brightness above the NITS value of the display is incorrect.

For a video reference of the effectiveness of the Media Resources SITELINE product, please see <https://vimeo.com/365082755>.



Figures 4 and 5. Close up photographs of SITELINE module face viewed from front (left) and from side (right). Note the red, green and blue diode lenses are directly visible from front direction but are obscured behind baffles viewed from the side.

Media Resources commits to the effectiveness of this light restriction technology when deployed 1404 Mabury Road. We have calculated the expected illuminance impact to surrounding areas of concern, shown in Figure 6, along with a table showing fc values at various distances and angles from the face of the display. Media Resources guarantees that the display will operate within 20% of illuminance impact calculated below. If approved and constructed, we can provide on-site lighting measurements to confirm correct installation and light restriction performance.

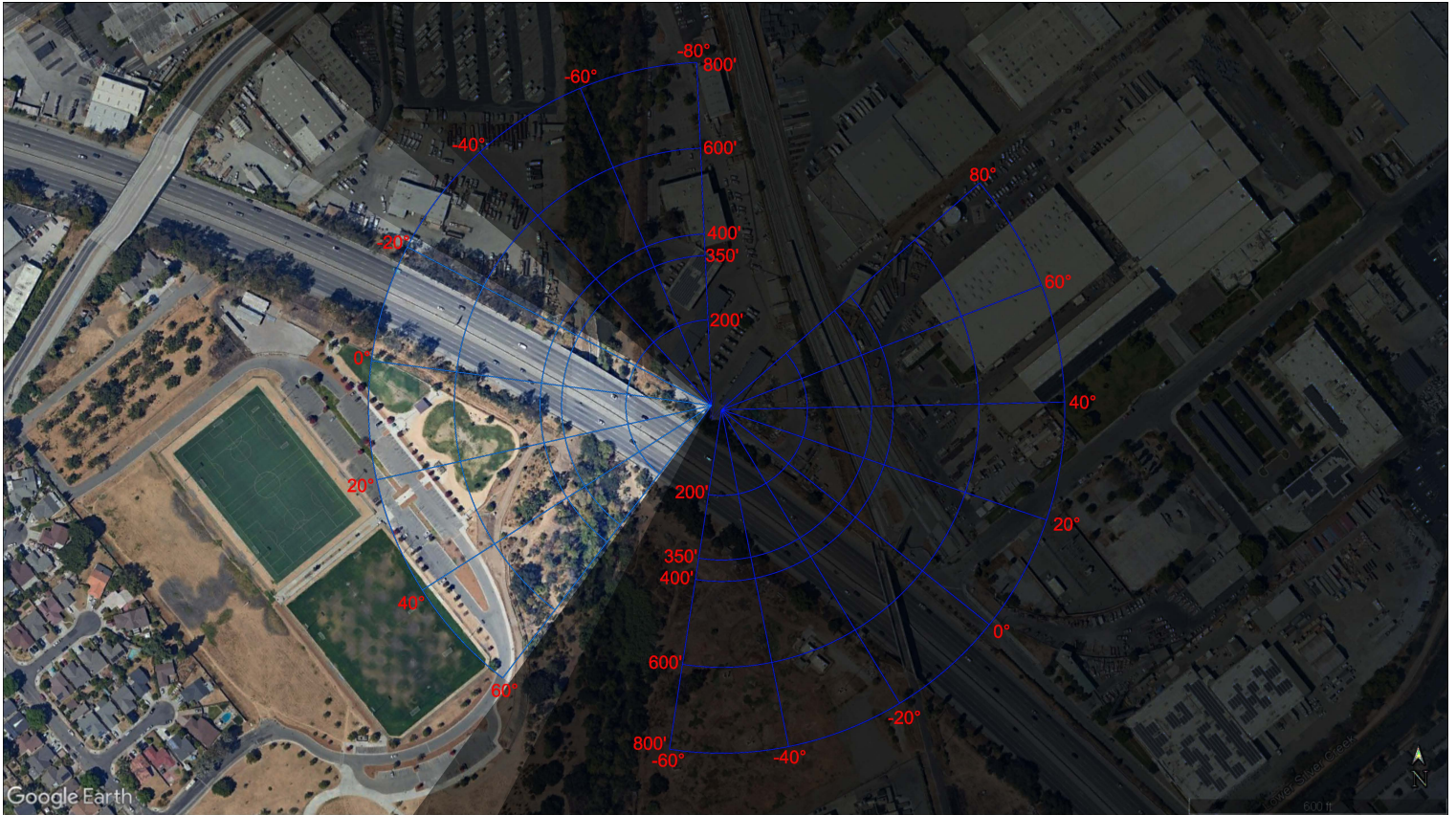


Figure 6. Site satellite photo overlay of distances and angles from proposed digital billboard site, corresponding to calculated illuminance figures in fc provided in Table 1.

Site Calculations - 300NITS Left-Blocking									
Measurement Angle									
Distance (ft)	-80°	-60°	-40°	-20°	0°	20°	40°	60°	80°
200'	0.001fc	0.004fc	0.009fc	0.514fc	0.637fc	0.612fc	0.462fc	0.209fc	0.001fc
350'	0.000fc	0.001fc	0.003fc	0.187fc	0.222fc	0.211fc	0.157fc	0.070fc	0.000fc
400'	0.000fc	0.001fc	0.002fc	0.146fc	0.171fc	0.163fc	0.121fc	0.053fc	0.000fc
600'	0.000fc	0.000fc	0.001fc	0.067fc	0.078fc	0.073fc	0.054fc	0.024fc	0.000fc
800'	0.000fc	0.000fc	0.001fc	0.038fc	0.044fc	0.041fc	0.030fc	0.013fc	0.000fc
1000'	0.000fc	0.000fc	0.000fc	0.025fc	0.028fc	0.027fc	0.020fc	0.009fc	0.000fc

Table 1. Site calculations based on MRI VIQ3 Sitaline Left Blocking.



1-800-667-4554
1387 Cornwall Rd.
Oakville, ON L6J 7T5
mediaresources.com

We are always committed to the responsible application of LED digital technology and are happy to engage with regulatory stakeholders at any time. Please feel free to contact us if you have any questions.

Sincerely,

Anthony Knight
Product Implementation Specialist
Media Resources Inc.
(289) 681-0035
aknight@mediaresources.com

C-5: Light Analysis Mabury Road Project Site

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Re: Use of digital display at 1404 Mabury Road, San Jose, CA

To whom it may concern,

Media Resources Inc. has been engaged by Clear Channel Outdoor to review and assess the lighting impact of the proposed digital billboard installation at 1404 Mabury Road. This document will describe the lighting impacts of our VISIONiQ digital billboards in this specific application, and further commit a maximum luminance value of the display as observed from the nearby light-sensitive areas.

Background on Media Resources Digital Display Ambient-Aware Brightness Controls

During dusk, dawn, or cloudy days, the operation of the digital display according to ambient light readings is the ideal way to maintain a glare-free, light-trespass free image. Media Resources digital billboards are all equipped with factory-mounted dual photocell sensors that are redundant and capable of reading ambient brightness even if one unit suffers a hardware failure. The ambient brightness to output brightness response curves have been carefully developed into a standard to provide good readability on the display while keeping in line with the brightness of the overall visual context.

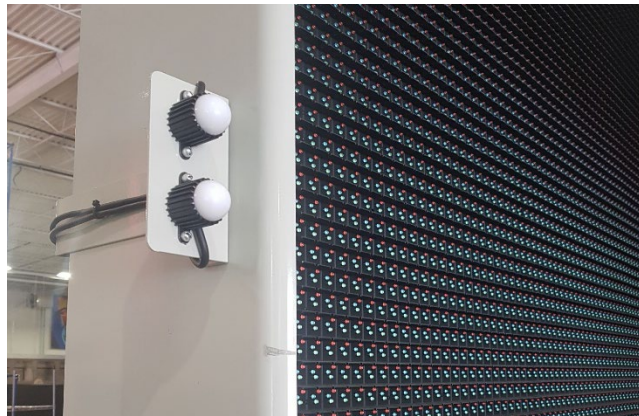


Figure 1. Media Resources standard - dual ambient brightness measuring photocells for hardware redundancy

During night-time, brightness control becomes critical as the digital billboards must be operated at a small percentage of its maximum brightness in order to avoid glare or light trespass. Media Resources endeavors to have the most comprehensive system of safeties and traceability for night-time brightness management. The proposed digital billboards are well equipped with modern brightness controls. Besides the redundant photocells above, a number of secondary fail-safes are also implemented including a communications watchdog (automatic reduction to night-time brightness in the event of a communication loss), and fallback to a location/season aware time-based schedule in the event of catastrophic photocell system failure. With these safety features in place, it becomes extremely unlikely for the digital billboard to operate at high brightness levels at night.

Additionally, the Media Resources Network Operations Centre can monitor brightness and recall brightness history for traceability. See Figure 2 and Figure 3 below on our internal control system for configuring brightness and recalling brightness history.

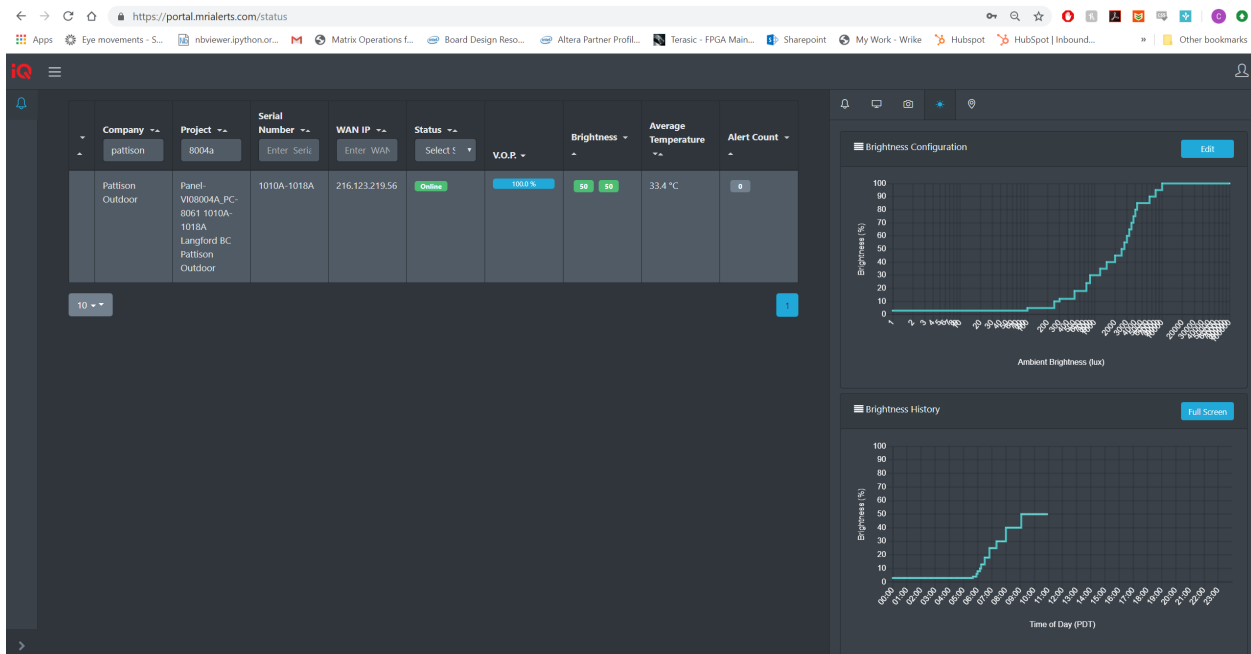


Figure 2. Media Resources web portal showing brightness configuration and history of the current day

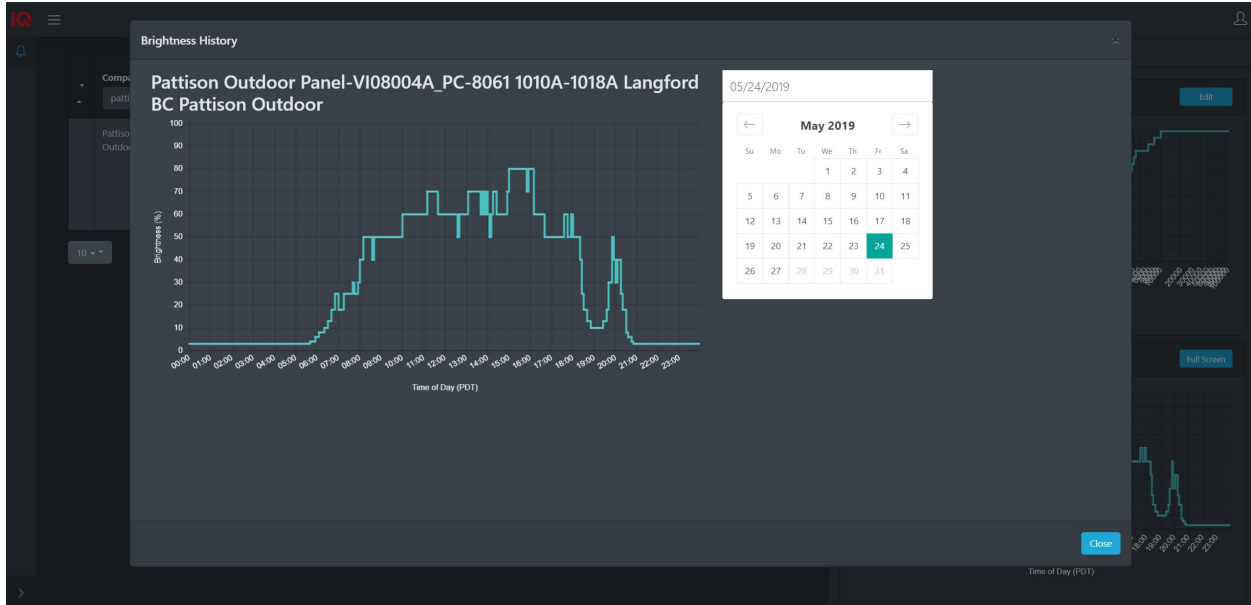


Figure 3. Media Resources web portal showing brightness history of any selected previous date. Brightness history data is logged indefinitely on Media Resources servers.

Media Resources commits to the effectiveness of this light restriction technology when deployed at 1404 Mabury Road. We have calculated the expected illuminance impact to surrounding areas of concern, shown in Figure 4, along with a table showing foot candle (fc) values at various distances and angles. Media Resources guarantees that the display will operate within 20% of illuminance impact calculated below. If approved and constructed, we can provide on-site lighting measurements to confirm correct installation and light restriction performance.



Figure 4. Site satellite photo overlay of distances and angles from proposed digital billboard site, corresponding to calculated illuminance figures in fc provided in Table 1.

Distance (ft)	-80°	-60°	-40°	-20°	0°	20°	40°	60°	80°
200'	0.063fc	0.209fc	0.462fc	0.612fc	0.637fc	0.612fc	0.462fc	0.209fc	0.063fc
350'	0.021fc	0.070fc	0.157fc	0.211fc	0.222fc	0.211fc	0.157fc	0.070fc	0.021fc
400'	0.016fc	0.053fc	0.121fc	0.163fc	0.171fc	0.163fc	0.121fc	0.053fc	0.016fc
600'	0.007fc	0.024fc	0.054fc	0.073fc	0.078fc	0.073fc	0.054fc	0.024fc	0.007fc
800'	0.004fc	0.013fc	0.030fc	0.041fc	0.044fc	0.041fc	0.030fc	0.013fc	0.004fc
1000'	0.003fc	0.009fc	0.020fc	0.027fc	0.028fc	0.027fc	0.020fc	0.009fc	0.003fc

Table 1. Site calculations in fc for the RHR Facing East display based on MRI VIQ Standard RGB Modules



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We are always committed to the responsible application of LED digital technology and are happy to engage with regulatory stakeholders at any time. Please feel free to contact us if you have any questions.

Sincerely,

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