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Attachment 5

DR BIO-2. Updated Appendix 4.2A Special Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximated 5 miles from the project site (CDFW 2021).
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Low potential to occur. Limited suitable habitat present. Grassland within project site mainly consists of non-native grasses, and the water source within the project site moves too quickly for this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2021).
*Taricha torosa (*Monterey Co. south only)	California newt	None/SSC	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
Reptiles				
Actinemys marmorata	northwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 0.5 miles from the project site (CDFW 2021).
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation	Not expected to occur. Vegetation present on project site is too dense for this species. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			and moist sandy or loose, loamy soils	
Arizona elegans occidentalis	California glossy snake	None/SSC	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Not expected to occur. No suitable habitat present for this species. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Moderate potential to occur. Suitable vegetation present on the survey area. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable habitat present on site. The closest known occurrence is approximately 3 miles from the project site (CDFW 2021).
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Moderate potential to occur. Suitable vegetation present on project site. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. Vegetation present on site is too dense to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2021).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	Low potential to occur. Limited suitable habitat present on site; however, it is isolated from any nearby observations. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Not expected to occur. No usitable habitat present on site. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).
Birds				
*Accipiter cooperii (*nesting*)*	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Low potential to forage, not expected to nest. Suitable foraging habitat present, but no habitat suitable for nesting. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).
*Agelaius tricolor (*nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	XXXX potential to occur. The closest known occurrence is approximately 1.5 miles from the project site (CDFW 2021).
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
*Ammodramus savannarum (*nesting*)*	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. No suitable habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
*Aquila chrysaetos (*nesting & wintering*)*	golden eagle	BCC/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to occur. Suitable habitat The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
*Asio otus (*nesting*)*	long-eared owl	None/SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats	Low potential to occur. Some suitable habitat is present on site; however, the habitat is low quality. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
*Athene cunicularia (*burrow sites & some wintering sites*)*	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Suitable agricultural fields are present; however, there is a lack of suitable burrows for nesting. The closest known occurrence is approximately 4 miles from the project site (CDFW 2021).
*Buteo regalis (*wintering*)*	ferruginous hawk	BCC/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	XXXX potential to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
*Campylorhynchus brunneicapillus sandiegensis (*San Diego & Orange Counties only*)*	coastal cactus wren	BCC/SSC	Southern cactus scrub patches	Not expected to occur. No suitable cacutus scrub pacthes present to support this species. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
*Circus hudsonius (*nesting*)*	northern harrier	None/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	XXXX potential to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
*Coccyzus americanus occidentalis (*nesting*)*	western yellow-billed cuckoo	FT, BCC/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Wide riparian areas not present to support this species. The closest known occurrence is approximately 20 miles from the project site (CDFW 2021).
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
*Elanus leucurus (*nesting*)*	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to occur. My forage but is unlikely to nest on site. The closest known occurrence is approximately 1 mile from the project site (CDFW 2021).
*Empidonax traillii extimus (*nesting*)*	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximatel 4 miles from the project site (CDFW 2021).
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Moderate potential to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Falco peregrinus anatum (nesting)	American peregrine falcon	BCC/FP/None/None	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Not expected to occur. While suitable foraging habitat for this species occurs on site, there are no suitable nesting areas due to the lack of cliffs, buildings, and bridges.
*Icteria virens (*nesting*)*	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Present. This species was observed during focused least Bell's vireo surveys within Oso Creek.
Laterallus jamaicensis coturniculus	California black rail	BCC/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Not expected to occur. Suitable vegetation is not present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. No suitable vegetation present. The closest known occurrence overlaps the project site (CDFW 2021).
Rallus obsoletus levipes	Ridgway's rail	FE/SE, FP	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
*Setophaga petechia (*nesting*)*	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane	Found on project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			chaparral, open ponderosa pine, and mixed-conifer habitats	
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. No suitable habitat is present to support this species. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Moderate potential to occur. Suitable riparian vegetation is present along the eastern boundary of the project site within Oso Creek. However, this species was not observed during focused surveys and the closest known occurrence is approximately 1 mile from the project site (CDFW 2021).
Fishes				
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 0.5 miles from the project site (CDFW 2021).
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/None	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 0.5 miles from the project site (CDFW 2021).
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None/SSC	Headwaters of the Santa Ana and San Gabriel Rivers; may be	Not expected to occur. No suitable vegetation present. The closest

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			extirpated from the Los Angeles River system	known occurrence is approximately 15 miles from the project site (CDFW 2021).
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Moderate potential to occur. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Not expected to occur. No suitable habitat present to support this species. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Not expected to occur. No suitable habitat present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Not expected to occur. No suitable vegetation is present to support this species. Vegetation found on site is also too dense. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in	Low potential to occur. The closest known occurrence is approximately 3

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	miles from the project site (CDFW 2021).
Lasiurus blossevillii	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	Low potential to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Low potential to occur. The closest known occurrence is approximately 2 miles from the project site (CDFW 2021).
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Low potential to occur. Limited suitable habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. Suitable habitat is not present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	Grassland and sparse coastal scrub	Not expected to occur. No suitable habitat is present to support this species. The closest known

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				occurrence is approximately 10 miles from the project site (CDFW 2021).
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2021).
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC	Saltmarsh, saltgrass, dense willow, bulrush	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2021).
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The project site is too isolated from other suitable habtiat to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2021).
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/PSE	Open grassland and scrub communities supporting suitable floral resources.	Moderate potential to occur. Moderate quality suitable habitat occurs on the Survey Area due to the presence of floristic resources.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pool habitat is present to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2021).
Danaus plexippus pop. 1	monarch	None/None	Wind-protected tree groves with nectar sources and nearby water sources	Low potential to occur. Some potential habitat is present to support this species. The closest known occurrence is approximately 2

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				miles from the project site (CDFW 2021).
Euphydras editha quino	Quino checkerspot butterfly	FE/None/NCCP	Occurs in sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego Counties on hills and mesas near the coast. It needs high densities of food plants P*lantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*.	Not expected to occur. While the site occurs in a coastal area and contains CSS on adjacent hillsides, the project site does not contain a high density of this species' host plant.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pool habitat is present to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2021).

Attachment 6

DR BIO-3. Updated Section 4.2 Biological Resources

4.2 Biological Resources

This section describes the existing biological resource conditions of the project site and vicinity, identifies associated regulatory standards, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. The biological resources described in this section have been compiled from a literature review of mapping, databases, and general plans, as well as a biological reconnaissance conducted on the project site by Dudek's biologist Tommy Molioo in February 2021; a formal jurisdictional aquatic resources delineation conducted in 2021 and updated in 2023; and focused species surveys conducted through spring and summer 2023. For records search data for the preparation of this section, refer to the following appendices:

- Appendix 4.2A, Special Status-Species with a Potential to Occur within the Survey Area
- Appendix 4.2B, Observed Species List
- Appendix 4.2C, Resumes of Applicant's Biologists
- Appendix 4.2D, Special-Status Species Occurrence Records (CNDDB and CNPS Forms)

4.2.1 Affected Environment

The project site and a 100-foot buffer were assessed for this report (Survey Area). The Survey Area is located within the northern portion of the city, adjacent to Camino Capistrano with Interstate-5 located to the east. It is currently used by the prior owner, Saddleback Church Rancho Capistrano, for ancillary activities. The Survey Area is adjacent to Saddleback Church Rancho Capistrano to the north, undeveloped land to the south, Oso Creek to the south and east, Metrolink Railroad and Interstate-5 to the east, and open space and residences outside of the city limits to the west. The SDG&E Trabuco to Capistrano 138 kV transmission line is located immediately east of the Survey Area and runs alongside the Metrolink Railroad tracks.

The project is immediately adjacent to Oso Creek and currently consists of a mixture of undeveloped and developed lands. Open space is located on the northern side of the project site associated with Saddleback Church Rancho Capistrano; it contains dirt roads and light, non-commercial agricultural activity. Besides a few small dirt trails and roads, the southern portion of the project site is undeveloped, with no sign of recent agricultural activity. The Survey Area encompasses a portion of Oso Creek, which lies at the bottom of steep slopes. Outside of these steep areas, the Survey Area is flat to gently sloping. Elevation on the Survey Area ranges from approximately 165 to 270 feet above mean sea level.

Land use surrounding the Survey Area consists of residential development to the north, east, and west. Interstate 5 occurs to the east, separating the Survey Area from other developed areas. Residential development to the west is denser than the residential development to the east. Several schools, churches, and agricultural areas are scattered in areas surrounding the Survey Area. Several creeks, such as Oso Creek, Arroyo Trabuco, and Horno Creek, occur in the vicinity that eventually drain to the Pacific Ocean to the south.

For the purposes of analyzing jurisdictional resources, the Survey Area consists of the larger Saddleback Church property, the proposed project components including emergency vehicle access road, battery storage yard, interconnection switchyard, internal access roads, 20-foot-wide perimeter landscaping, transmission poles (two replacement poles and a new southern pole), two overhead transmission lines, plus a 100-foot buffer to account for immediately adjacent aquatic resources. In addition, note that the Survey Area discussed in Section 4.2.1.1 that provides the regional overview of biological resources includes a 10-mile radius as required by the CEC.

4.2.1.1 Regional Overview

The Survey Area is located in the southern portion of Orange County, California. Regionally, the Survey Area occurs within a valley between the Santa Ana Mountains to the northeast and the Laguna Woods to the west. Interstate 5 and State Route 73 are major transportation corridors in the region, and the Survey Area occurs immediately west of Interstate 5. Oso Creek is located to the immediate east of the Survey Area. Oso Creek originates in the Cleveland National Forest and travels southwest through southern Orange County before connecting with the Pacific Ocean. The Survey Area is located on the San Juan Capistrano, California, U.S. Geological Survey 7.5-minute map on Sections 25, 26, 35, and 36 of Township 75, Range 8 West. The Survey Area is located approximately 0.5-mile south of the confluence Interstate 5 and State Route 73.

The Survey Area is located southwest of the Santa Ana Mountains, west of the Peninsular Range, approximately 5 miles from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near San Juan Capistrano range from approximately 48°F to 79°F, and the area generally receives a yearly rainfall of less than 14 inches per year (WRCC 2024).

4.2.1.2 Significant Regional Wetlands and Protected Areas

The National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) were reviewed to identify wetland or hydrologic features (USFWS 2024, USGS 2024). Figure 4.15-1 (see Section 4.15, Water Resources) depicts the mapped wetland and hydrologic features in the Survey Area. These resources are further described below.

Protected areas within 10 miles of the Survey Area were determined through a review of the California Protected Area Database (CPAD) and California Conservation Easement Database (CCED) mapping tools (CPA 2024). These resources are further described below.

4.2.1.2.1 Hydrologic Features

A review of the National Wetland Inventory (NWI) and National Hydrography Dataset (NHD) resulted in several waterbodies within the Survey Area (Figure 4-15-1). The NHD specifically maps Oso Creek as a perennial stream feature that flows north to south along the eastern edge of the Survey Area. An ephemeral drainage feature is mapped flowing across the southern portion of the Survey Area, originating from a concrete-lined channel at the southwestern corner of the Survey Area. This ephemeral feature flows northeast, eventually flowing into Oso Creek. One additional ephemeral stream feature is mapped on the western side of the Survey Area, but it was not observed in the field. Furthermore, a review of the NWI dataset revealed two wetland types, Riverine and Artificial Pond, within the Survey Area. Specifically, Oso Creek (R4SBC) habitat is classified as riverine, intermittent, streambed, and seasonally flooded. The ephemeral streams mentioned above are not shown in the NWI dataset. The artificial pond (PUBx) west of the proposed access road is classified as palustrine and excavated with an unconsolidated bottom (USFWS 2024, USGS 2024). It functions as an ornamental pond associated with Saddleback Church.

Oso Creek flows south, away from the Survey Area into Arroyo Trabuco. Arroyo Trabuco joins with San Juan Creek, a relatively permanent water downstream and outflows into the Pacific Ocean, a traditional navigable water, near Dana Point. Compass Energy Storage LLC and Dudek have prepared jurisdictional delineations to determine the accuracy of the NWI/NHD data and the presence/absence of potentially jurisdictional resources throughout the Survey Area (Dudek ~~2021,~~ 2023). The formal wetland delineations were performed in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE 1987). Jurisdictional delineation results are shown in Figure 4.2-1.

4.2.1.2.2 Protected Areas

The California Protected Areas Database (CPAD) is a database that includes lands that are owned and protected for open space purposed by over 1,000 public agencies or non-profit organizations. CPAD includes national, state, or regional parks, forests, preserves and wildlife areas. It also includes large and small urban parks; land trust preserves and special district open space lands (CPA~~D~~ 2024).

A review of the CPAD and California Conservation Easement Database (CCED) confirmed that there are several protected areas or conservation easements within a 10-mile radius of the Survey Area (CPA~~CED~~ 2024). Project activities will not encroach into any conservation easements or protected areas, and there are no conservation easements or protected areas on the Survey Area. Figure 4.2-2 depicts protected areas identified within a 10-mile radius of the Survey Area. A list of the CPAD and CCED identified areas that occur within the 10-mile buffer of the project is provided below.

California Protected Areas Database

Rio Oso Park

The nearest mapped protected area is Rio Oso Park, located approximately 1.5 miles south of the Survey Area. It is held by the City of San Juan Capistrano (CPA~~D~~ 2024).

Other protected areas identified within the 10-mile buffer of the project include:

- Acu Canyon Park
- Aliso and Wood Canyons Wilderness Park – County of Orange
- Aliso Beach Park – County of Orange
- Beacon Hill Park
- Bear Brand Park
- Capistrano Beach Park
- Chapparosa Park
- Cook Cordova Park
- Cleveland National Forest – U.S. Forest Service
- Creekside Park – City of Dana Point
- Coronado Park – City of Mission Viejo
- Crystal Cove State Beach
- Doheny State Beach
- Dana Point Preserve
- El Camino Real Park
- Forster Ranch Community Park
- Florence Joyner Olympiad Park – City of Mission Viejo
- Hidden Hills Park – City of Laguna Niguel
- Juaneno Park – City of Laguna Niguel
- Junipero Serra Park – City of San Juan Capistrano

- Ladera Ranch Trails and Open Space
- La Hermosa Park - City of Laguna Niguel
- Laguna Niguel Reginal Park – City of Laguna Niguel
- Lake Forest Sports Park
- Lake Forest GC
- La Plata Park – City of Laguna Niguel
- Liberty Park
- Long View Park
- Los Rios Park
- Mission Viejo Youth Athletic Park
- Marco Forster Field
- O'Neil Regional Park – County of Orange
- Oso Viejo Regional Park
- Park Vista Overlook
- Reef View Park
- Redondo View Node Park
- Regency Park – City of Laguna Woods
- Richard T. Steed Memorial Park
- Ronald Caspers Wilderness Park
- San Juan Capistrano City Open Space
- Seminole Park
- Sea Canyon Park
- San Gorgonio Park – City of San Clemente
- Salt Creek Beach County Park – County of Orange
- Serrano Creek Park
- South Strands Conservation Park – City of Dana Point
- Starr Ranch – National Audubon Society
- Thomas F. Riley Wilderness Park
- Trabuco Rose Preserve
- Treasure Island Beach
- Vista Del Lago Open Space – City of Mission Viejo
- Whiting Ranch Wilderness Park – County of Orange

California Conservation Easement Database

The CCED is a database that defines boundaries of easements and deed-base restrictions on private lands. These lands may be actively farmed, grazed, forested, or held as nature preserves and typically have no public access (CPA~~CED~~ 2024). The following easements were mapped within 10 miles of the project:

Gobernadora Conservation Easement

The nearest mapped conservation easement is the Gobernadora conservation easement, located approximately 5 miles east of the project (~~CCED~~ CPA 2024).

Bee Canyon Conservation Easement

This conservation easement Is located approximately 9 miles north of the project and is held by CDFW.

Gobernadora Conservation Easement

This conservation easement is located approximately 7 miles east of the project and is held by CDFW.

Irvine Ranch Conservation Easement

This conservation easement is located approximately 9 miles northwest of the project.

Irvine Ranch (East Orange) Conservation Easement

This conservation easement is located approximately 10 miles north of the project and is held by the Nature Conservancy.

Irvine Ranch (Fremont) Conservation Easement

This conservation easement is located approximately 10 miles northwest of the project and is held by the Nature Conservancy.

Irvine Ranch (laguna Laurel) Conservation Easement

This conservation easement is located approximately 6 miles northwest of the project site is held by the Nature Conservancy.

Rose Canyon Conservation Easement

This conservation easement is located approximately 8 miles northeast of the project and is held by CDFW.

Upper Chiquita Canyon Conservation Easement

This conservation easement is located approximately 8 miles northeast of the project and is held by the Transportation Corridor Agencies.

Nyes Place- Laguna Beach Conservation Easement

This conservation easement is located approximately 5 miles southwest of the project.

Shady Canyon Conservation Easement

This conservation easement is located approximately 8 miles northwest of the project and is held by CDFW.

4.2.1.3 Sensitive Habitat Types and Critical Habitat

Sensitive habitat types and critical habitats within a 10-mile radius of the project are shown on Figure 4.2-3 and Figure 4.2-4. The descriptions of the sensitive and critical habitats identified are described below.

4.2.1.3.1 Sensitive Habitat Types

As defined by CDFW, sensitive habitats are plant communities that have limited distributions, have high wildlife value, include sensitive species, or are particularly vulnerable to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in the California Natural Diversity Database (CNDDB) (CDFW 2024a). Currently, CDFW publishes the California Sensitive Natural Communities List online (CDFW 2023). Vegetation rarity ranking is based on a rank calculated developed by NatureServe. Vegetation maps were taken from the CDFW Vegetation Classification Reports and Maps (CDFW 2024b). CDFW's Vegetation Program considers vegetation alliances with state ranks of S1-S3 as sensitive vegetative habitats. CDFW considers species or natural communities with one of the following NatureServe rankings as sensitive: Global(G)/State(S); Presumed Extinct (X); Possibly Extinct (G/S H); Critically Imperiled (G/S 1); Imperiled (G/S 2); Vulnerable (G/S 3). The following sensitive habitat types are mapped within a 10-mile radius of the project (Figure 4.2-3):

Soft Scrub/Mixed Chaparral

Soft scrub is characterized by shrubs in the Salvia genus, including black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and purple sage (*Salvia leucophylla*), and can also include other native shrubs including deer weed (*Acmispon glaber*). Mixed chaparral can co-dominate soft scrub communities, characterized by chamise (*Adenostoma fasciculata*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and sugar bush (*Rhus ovata*) (CNPS 2024). No soft scrub/mixed chaparral occurs on the Survey Area.

River/Stream/Canal/Barren

Rivers, streams, creeks, and canals within 10 miles of the project include Oso Creek, Santa Margarita Creek, Arroyo Trabuco, San Juan Creek, the Santa Ana River, Chiquita Creek, Aliso Creek, Sulphur creek, San Diego Creek, Salt Creek, and various flood control channels. Oso Creek occurs within the Survey Area and supports a mixed willow-cottonwood hardwood riparian habitat.

Coast Live Oak

Oak dominated habitats occur in canyons and on slopes with trees and shrubs in the Quercus genus, including coast live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepsis*), scrub oak (*Quercus berberidifolia*), Nuttal's scrub oak (*Quercus nuttali*), and interior live oak (*Quercus wislizeni*), as dense or open canopies (CNPS 2024). Nuttal's scrub oak is considered sensitive by CDFW (CDFW 2023). No coast live oak occurs on the Survey Area.

Baccharis (Riparian)

This vegetation community consists of shrubs from the *Baccharis* genus that are accustomed to saturated soils, including mulefat (*Baccharis salicifolia*), coyote brush (*Baccharis pilularis*), and desert broom (*baccharis sarothroides*) (CNPS 2024). Mulefat thickets occur along Oso Creek on the eastern Survey Area boundary.

Fremont cottonwood/mixed willow (*Populus fremontii-Salix laevigata*) Riparian Mixed Hardwood Woodland

Riparian mixed hardwood consists of mature riparian trees and shrubs including mixed willows and cottonwoods that can support a variety of special-status riparian birds including least Bell's vireo, yellow warbler, and yellow-breasted chat. This vegetation community also occurs along Oso Creek on the eastern Survey Area boundary.

California Sagebrush (*Artemisia californica*) Scrub Occupied by Coastal California Gnatcatcher (*Polioptila californica*)

CDFW considers this vegetation community as sensitive when occupied by a listed species (CDFW 2023). California sagebrush scrub is dominated by California sagebrush but can be co-dominate with California buckwheat (*Eriogonum fasciculatum*) and mixed Salvia species. Recent occurrence records for coastal California gnatcatcher occur in California sagebrush scrub located approximately 0.5 miles south of the project site. These offsite areas where gnatcatcher was previously observed contain much higher quality habitat than what occurs on site. Coastal California gnatcatcher prefers relatively large contiguous swaths of coastal sage scrub vegetation as opposed to small, isolated patches of habitat for nesting. The Survey Area does not contain any California sagebrush scrub that could provide suitable nesting or foraging habitat for coastal California gnatcatcher. Therefore, no further analysis or focused surveys for this species were conducted for the project.

4.2.1.3.2 Critical Habitat

Critical habitats are designated areas occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species. In designated critical habitat, U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) consider the following requirements of the species:

> Space for individual and population growth, and for normal behavior; nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing offspring; and, generally, any habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of this species (USFWS 2024).

No designated critical habitats occur within the Survey Area. The following critical habitats were identified within 10 miles of the Survey Area:

Coastal California Gnatcatcher Critical Habitat

The northern boundary of Coastal California gnatcatcher critical habitat is located approximately 0.5 miles south and east of the project in upland California sagebrush scrub at the confluence of Arroyo Trabuco and Oso Creek (USFWS 2024a). This critical habitat extends to other locations approximately 1 mile southwest of the project in Salt Creek Corridor Regional Park, 3 miles south and southwest of the project in upland coastal sage scrub habitats, approximately 5 miles southwest of the project in Aliso Beach Park, and approximately 6 miles east of the project site in upland coastal sage scrub.

Southern Steelhead *(Oncorhynchus mykiss)* Critical Habitat

The northern boundary of the southern california Distinct Population Segment of southern steelhead trout critical habitat is located approximately 0.5 miles downstream of the project site (NMFS 2024) in Trabuco Creek, and

extends approximately 4.5 miles southwest to its outlet at Doheny Beach, the Pacific Ocean. This distinct population segment is federally endangered and CESA Candidate endangered. It is known to spawn in gravel bottomed, fast flowing, well-oxygenated rivers and streams. Trabuco creek and Oso Creek are connected until Trabuco Creek becomes channelized approximately 2 miles south of the project site.

Arroyo Toad (*Anaxyrus californicus*) Critical Habitat

The northern boundary of aArroyo toad critical habitat is located approximately 2.5 miles east and south of the project, in riparian scrub habitat associated with San Juan Creek in Rancho Mission Viejo (USFWS 2024a). The western boundary of another critical habitat for this species is mapped approximately 7 miles southeast of the project, in San Clemente. Finally, the southern boundary of additional critical habitat for arroyo toad occurs approximately 7 miles northeast of the project, in the Trabuco Highlands.

Tidewater Goby (*Eucyclogobius newberryi*) Critical Habitat

The northern boundary of tidewater goby critical habitat is located approximately 5 miles southwest of the project in Aliso Creek. There is no direct connectivity between the suitable habitat within Aliso Creek to the existing habitat within the boundaries of Oso Creek to the immediate east of the site.

Thread-Leaved Brodiaea (*Brodiaea filifolia*) Critical Habitat

The eastern boundary of thread-leaved brodiaea critical habitat is located approximately 3 miles northwest of the project in habitat associated with Aliso and Wood Canyons Wilderness Park. Another designated critical habitat for this species occurs approximately 4.5 miles east of the project in upland habitat associated with the Gobernadora Conservation Easement. Finally, additional critical habitat for this species occurs approximately 7 miles southeast and northeast of the project in upland habitat (USFWS 2024a).

This perennial herb occurs in chaparral openings, cismontane woodland, coastal scrub, playas, vernal pools, and grassland at elevations ranging between 80 to 3,675 feet above mean sea level. It blooms from March to July and is often found on clay soils. It is federally threatened, state endangered, ranked S2 by CDFW, and has a California Rare Plant Rank (CRPR) of 1B.1- rare or endangered, seriously threatened (CNPS 2024a).

4.2.1.4 Regional Sensitive or Special-Status Species

Appendix 4.2A provides a list of special-status species found within a 10-mile radius of the Survey Area during the literature review. This appendix includes the status designation for each species, habitat types that may support these species in the regional vicinity, a determination of potential for these species to occur within the Survey Area, and a rationale for the occurrence determination. Sensitive or special-status species meet at least one or more of the following criteria:

- Regional species listed as threatened or endangered that have special requirements under the federal Endangered Species Act (FESA) (16 U.S.C. 1531-1544USFWS 1973);
- Regional species listed as threatened or endangered that have special requirements under the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 seq.);
- Other non-listed sensitive and special-status species, including California Native Plant Society (CNPS) CRPR 1-4 species, CDFW Species of Special Concern (SSC), CDFW Fully Protected (FP) species, and other CDFW Special Animals (CDFW 2024a).

The results of the special-status species identified during the biological reconnaissance, protocol-level rare plant survey, and protocol-level least Bell's vireo (*Vireo bellii pusillus*) surveys on the Survey Area are discussed in Section 4.2.1.7. Appendix 4.2D lists the special-status plant and wildlife species known to occur within a 10-mile radius of the project. No federal or state listed special-status species are known to occur on the Survey Area. However, two non-listed state special-status SSC were observed within Oso Creek on the Survey Area during the least Bell's vireo surveys: yellow breasted chat (*Icteria virens*) and yellow warbler (*Setophaga petechia*) (further discussed in Section 4.2.1.7).

4.2.1.5 Biological Surveys

In February 2021, Dudek biologists conducted vegetation mapping and a general biological reconnaissance of the Survey Area. Focused surveys were conducted throughout spring and summer of 2021 by Dudek biologists to determine the presence/absence of various special-status species. Specifically, protocol-level rare plant surveys and least Bell's vireo (*Vireo bellii pusillus*) surveys were conducted within the Survey Area. Due to project design and footprint revisions in early 2023, updated focused surveys for rare plants and least Bell's vireo were conducted in the spring and summer of 2023. Further, Dudek conducted an updated jurisdictional delineation in 2023 to assess potentially jurisdictional features within the revised project footprint. Table 4.2-1 lists the dates, conditions, and focus for each survey. All focused surveys have been conducted to date, and the results are provided in this report.

Table 4.2-1. Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
2/24/2021	1230–1500	Biological Reconnaissance	TM, JH	60°F–62°F; 0%–0% cloud cover; 2–3 miles per hour (mph) winds
3/11/2021	0930–1400	Jurisdictional Delineation	DA	62°F–65°F; 5%–10% cloud cover; 1–2 mph winds
4/8/2021	0730–1130	LBV #1	TM, ES	55°F–64°F; 0%–0% cloud cover; 0–1 mph winds
4/28/2021	0900–1100	LBV #2	TM	61°F–63°F; 100%–100% cloud cover; 1–2 mph winds
5/10/2021	0655–1315	Botanical #1	EB, RS	58°F–2°F; 60%–100% cloud cover; 0–4 mph winds
5/14/2021	0630–0950	LBV #3	EM	65°F–68°F; 90%–100% cloud cover; 0–3 mph winds
5/26/2021	1001–1108	LBV #4	RS	68°F–70°F; 10%–0% cloud cover; 5–15 mph winds
6/18/2021	0921–1041	LBV #5	RS	66°F–73°F; 100%–60% cloud cover; 5–10 mph winds
7/2/2021	1000–1130	LBV #6	DA	69°F–70°F; 0%–0% cloud cover; 1–3 mph winds
7/15/2021	0849–1011	LBV #7	RS	73°F–75°F; 10%–0% cloud cover; 1–5 mph winds
7/25/2021	0836–0711	Botanical #2	EB	64°F–80°F; 0%–80% cloud cover; 1–3 mph winds
3/23/2023	0900-1200	Biological Reconnaissance, Jurisdictional Delineation Update	TM	53°F–60°F; 90% cloud cover; 2-4 mph winds

Table 4.2-1. Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
4/11/2023	0800-1100	LBV #1	SC	51°F–71°F; 10%–100% cloud cover; 1–5 mph winds
4/21/2023	0830-1100	LBV #2	KN	69°F–75°F; 0% cloud cover; 0–2 mph winds
5/3/2023	0900-1000	LBV #3	TM	58°F–60°F; 10% cloud cover; 2-4 mph winds
5/5/2023	0800-1720	Botanical #1	EB	58°F–77°F; 10%-40% cloud cover; 0-3 mph winds
5/17/2023	1000-1100	LBV #4	TM	55°F–67°F; 70 and-80% cloud cover; 1-3 mph winds
6/2/2023	0830-1100	LBV #5	SC	65°F–66°F; 100% cloud cover; 0-6 mph winds
6/13/2023	0830-1100	LBV #6	SC	68°F–71°F; 100% cloud cover; 1-4 mph winds
6/23/2023	1140-1930	Botanical #2	EB	65°F–77°F; 10%-20% cloud cover; 0-3 mph winds
6/27/2023	0640-0850	LBV #7	DA	65°F–66°F; 100% cloud cover; 0-6 mph winds
7/13/2023	0845-1100	LBV #8	KN	74°F–81°F; 0% cloud cover; 1-4 mph winds

Notes: LBV = least Bell's vireo
Personnel: DA = Dylan Ayers; EB = Erin Bergmann EM = Erin McKinney; ES = Eilleen Salas; JH = Janice Heller; KN = Kimberly Narel; RS = Rachel Swick; SC = Shana Carey; TM = Tommy Molioo.

Reconnaissance Survey

- **Vegetation Mapping.** Dudek Biologists Tommy Molioo and Janice Heller mapped vegetation communities in the field directly onto a 250-scale (1 inch = 250 feet) aerial photograph of the Survey Area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the Survey Area was determined. Native plant community classifications used in this report follow the Habitat Classification System for Orange County (County of Orange 1992) and California Native Plant Society's A Manual of California Vegetation (Sawyer et al. 2009) where feasible, with modifications to accommodate the lack of conformity of the observed communities to those listed in the Habitat Classification System for Orange County. The initial mapping of the Survey Area used an approximately 0.25-acre minimum mapping unit for vegetation community polygons (i.e., clusters of particular vegetation types smaller than 0.25 acres were not necessarily mapped separately from the surrounding, larger vegetation community).
- **Biological Survey.** The potential for occurrences of special-status wildlife species, resulting from the literature review, were assessed in relation to the Survey Area. A total of 52 wildlife species (50 native, 2 non-native) and 75 plant species (11 native, 64 non-native) were observed either on or in the vicinity of the Survey Area. Many of these species are common to the region and would be expected in terrestrial habitats present in the Survey Area. Special-status species that are threatened, endangered, or protected found on this list are discussed in detail in Section 4.2.1.5. A comprehensive list of all plant and wildlife species observed is included in Appendix 4.2B.

Jurisdictional Delineation and Updated Jurisdictional Delineation. In March 2021, Dudek biologists conducted a formal jurisdictional wetlands delineation within the Survey Area. All areas identified as being potentially subject to the jurisdiction of the United Stated Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW were field-verified and mapped. The wetlands delineation was performed in accordance with the methods prescribed in the 1987 Wetlands Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), and the USACE and Environmental Protection Agency (EPA) Rapanos Guidance (USACE and EPA 2008). In March 2023, an updated formal jurisdictional wetlands delineation was conducted, focusing on potentially jurisdictional features within the latest project footprint (Dudek 2023). The Survey Area was assessed for the presence/absence of potentially jurisdictional Waters of the United States (WOTUS) as well as RWQCB and CDFW regulated waterbodies such as wetlands, vernal pools, washes, drainages, streams, lakes, ponds, and any other water bodies. Results of the formal aquatic resources delineations are summarized in Section 4.2.2.2.5.

Rare Plant Surveys. Dudek biologists conducted a spring focused special-status plant survey on May 10, 2021, and a summer focused special-status plant survey on July 25, 2021. Field survey methods and mapping of rare plants conformed to CNPS's Botanical Survey Guidelines (CNPS 2001), CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The surveys consisted of one survey pass in May and one survey pass in July that provided 100% coverage of the Survey Area. Updated protocol-level plant surveys were conducted in spring and summer of 2023 also provided 100% coverage of the Survey Area.

Before conducting the surveys, Dudek botanists conducted reference population checks prior to the 2021 botanical surveys to ensure the focal special-status plant species were in bloom and identifiable. Reference checks were conducted for the following species: threadleaf brodiaea (*Brodiaea filifolia*), Catalina mariposa lily (*Calochortus calalinae*), small flowered morning glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), Palmer's grapplinghook (*Harpagonella palmeri*), cliff aster (*Malacothrix saxatilis var. saxatilis*), chaparral ragwort (*Senecio aphanactis*), bigleaf crownbeard (*Verbesina dissita*), and San Diego thorn mint (*Acanthomintha ilicifolia*). Results of the 2021 and 2023 focused rare plant surveys were negative. As such, special-status plants are considered absent from the Survey Area.

Least Bell's Vireo Surveys. Dudek biologists conducted eight survey passes within suitable habitat in the Survey Area to determine the presence/absence of least Bell's vireo (*Vireo bellii pusillus*). Suitable habitat for the species was identified during the biological reconnaissance within the riparian woodland habitat associated with Oso Creek and several unnamed tributaries. All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat. This route was arranged to cover all suitable habitat within the Survey Area. An electronically based vegetation map projected on an iPad or iPhone of the Survey Area was available to record any detected vireo. Binoculars (8×40 through 10×50) were used to aid in detecting and identifying wildlife species. Surveyors did not survey more than 3 linear kilometers of habitat on any given survey day. Surveyors generally surveyed between 1 to 2 kilometers of linear habitat on any given survey day. The least Bell's vireo focused survey area is depicted on Figure 4.2-5.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for least Bell's vireo. The eight surveys for least Bell's vireo followed the currently accepted Least Bell's Vireo Survey Guidelines (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats during the period from April 10 to July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and

11:15 a.m. and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Any sign or observations of least Bell's vireo were noted and GPS points taken. All avian species encountered during the surveys were logged in an electronic datasheet. The results of the least Bell's vireo surveys in 2021 and 2023 were negative. As such, this species is considered absent from the Survey Area.

4.2.1.6 Land Cover Types and Vegetation Communities

All plant species encountered during the field reconnaissance surveys and jurisdictional delineations were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (formerly California Native Plant Society List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024a). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020) and common names follow the California Natural Community list (CDFW 2023) or the United States Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2024). A list of plant species observed in the Survey Area during initial surveys is presented in Appendix 4.2B.

The Survey Area consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities (Figure 4.2-6). Most of the Survey Area is dominated by agricultural land consisting of non-native annual grasses, with trees and shrubs occurring intermittently around the Survey Area. Dense riparian vegetation is found around the aquatic resources in the Survey Area, and non-native vegetation occurs sporadically throughout. The entire eastern edge of the Survey Area contains steep slopes that are associated with Oso Creek. Significant erosion is occurring on these steep slopes, leaving some areas as barren soils with no established vegetative cover. Communities observed throughout the Survey Area include Fremont Cottonwood – Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Riparian Woodland (Popfre-Sallas), Mulefat Thickets (Bacsal), Agriculture (AGR), Urban/Developed (DEV), Disturbed Habitat (DH), Ornamental (ORN), Upland Mustards (UM), and Non-Vegetated Channel (NVC). These vegetation communities and land covers are described in further detail below and are summarized in Table 4.2-2. The complete list of plant species observed in the Survey Area is included in Appendix 4.2B. Vegetation communities and land covers observed on the Survey area are depicted on Figure 4.2-8.

Table 4.2-2. Vegetation Communities and Land Cover Types in the Survey Area

Vegetation Communities and Land Cover Types	Project Boundary (acres)	100-foot Survey Area Buffer (acres)
Native Vegetation Communities		
Mulefat Thickets (BacSal)	N/A	1.11
Fremont cottonwood – Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Riparian Woodland (*Popfre-Sallas*)	N/A	0.94
Subtotal	*N/A*	*2.1*
Non-Native Vegetation Communities and Land Covers		
General Agriculture (AGR)	10.82	9.09
Urban/Developed (DEV)	1.45	4.67
Disturbed Habitat (DH)	1.72	5.85
Ornamental (ORN)	0.06	0.58
Upland Mustards (UM)	0.04	1.88

Table 4.2-2. Vegetation Communities and Land Cover Types in the Survey Area

Vegetation Communities and Land Cover Types	Project Boundary (acres)	100-foot Survey Area Buffer (acres)
Non-vegetated Channel (NVC)	N/A	0.58
Subtotal	*14.1*	*22.7*
Total*	**14.1**	**24.8**

Note:
* Totals may not exactly sum due to rounding.

4.2.1.6.1 Mulefat Thickets (BacSal)

The Bascal mapping unit occurs along the edges of the Popfre-Sallas vegetation community on the steep slopes associated with Oso Creek. Characteristic species of this community includes mulefat (*Baccharis salicifolia*), elderberry (*Sambucus nigra*), and tamarisk (*Tamarix ramoissima*). Other mixed herbs observed in this community include poison hemlock (*Conium maculatum*), black mustard (*Brassica nigra*), and horseweed (*Erigeron* sp.). The mulefat thickets are confined to Oso Creek beneath the proposed overhead transmission lines. Riparian *Baccharis* species such as the mulefat thickets on the Survey Area are considered a sensitive habitat type, as is Oso Creek.

4.2.1.6.2 Fremont Cottonwood-Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Association (Popfre-Sallas)

The Popfre-Sallas vegetation community occurs along Oso Creek on both flat land and steep slopes. Characteristic species of this community includes Fremont's cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), mule fat, and California sycamore (*Platanus racemosa*). Other mixed herbs observed in this community include poison hemlock (*Conium maculatum*) and California wood sorrel (*Oxalis* sp.). This riparian woodland community is considered sensitive by CDFW and is confined to Oso Creek beneath the proposed overhead transmission lines.

4.2.1.6.3 General Agriculture

The Agriculture (AGR) mapping unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Agriculture (AGR) mapping unit refers to areas that support an active agricultural operation. Agricultural activity occurring in the project site consisted of row crops and raised container gardens that are part of a non-commercial operation. Some herbaceous ruderal species were observed growing in the disturbed soils associated with these areas. Agriculture (AGR) habitat dominates the Survey Area.

4.2.1.6.4 Disturbed Habitat

The Disturbed Habitat (DH) mapping unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Disturbed Habitat (DH) mapping unit refers to areas that lack vegetation but still retain a pervious surface, or that are dominated by a sparse cover of non-native grasses and ruderal species, such as wild oat (*Avena fatua)*, black mustard, red brome (*Bromus madritensis*), and prickly lettuce (*Lactuca serriola*). Disturbed Habitat (DH) consists of existing compacted dirt access paths within the project boundary as well as along the proposed access road.

4.2.1.6.5 Ornamental

The Ornamental (ORN) mapping unit is not recognized be the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Ornamental (ORN) mapping unit refers to areas that are consistently managed and planted with decorative tree, shrub, and herbaceous species. Ornamental (ORN) vegetation associated with the existing Saddleback Church is located along a portion of the proposed access road as well as along the proposed relocated equestrian trail.

4.2.1.6.6 Upland Mustards

The Upland Mustards (UM) vegetation community occurs within the outer limits of the Survey Area, on both sloped areas and flat lands. Characteristic species of this community includes black mustard, red brome, ripgut brome (*Bromus diandrus*), wild oat, soft chess (*Bromus hordeaceus*), and Johnsongrass (*Sorghum halepense*). Other mixed herbs observed in this community include artichoke thistle (*Cynara cardunculus*), pampas grass (*Cortaderia selloana*), red stemmed filaree (*Erodium cicutarium*), and London rocket (*Sisymbrium irio*). This community is relatively low quality because many of the observed species are non-native and associated with prior disturbance.

4.2.1.6.7 Developed Areas

The Urban/Developed (DEV) unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). Developed land typically includes areas that have been constructed upon and do not contain any naturally occurring vegetation. These areas are generally characterized as graded land with asphalt and concrete placed upon it. Urban/Developed (DEV) areas mapped for the Survey Area include existing paved parking lots and roadway, and the developed community garden. The proposed transmission poles also occur on developed land adjacent to the existing Trabuco to Capistrano 138 kV transmission line. No vegetation was observed within Urban/Developed (DEV) areas in the Survey Area.

4.2.1.6.8 Non-Vegetated Channel

The Non-Vegetated Channel (NVC) unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). It typically includes a concrete-lined floodway or flood control channel that conveys stormwater runoff and do not contain any naturally occurring vegetation. The non-vegetated channel on the Survey Area consists of the concrete channelized portion of Oso Creek within the Survey Area buffer.

4.2.1.7 Sensitive and Special-Status Species

Endangered, rare, or threatened species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status species” in this report and include (1) endangered or threatened species recognized in the context of the CESA and FESA; (2) plant species with a California Rare Plant Rank (CNPS 2024) (lists 1 through 4); (3) California Species of Special Concern (SSC) and Watch List species, as designated by CDFW (CDFW 2024); (4) mammals and birds that are Fully Protected species, as described in California Fish and Game Code Sections 4700 and 3511; (5) Birds of Conservation Concern as designated by USFWS (2024); and (6) plant and wildlife species that are “covered” under the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

Dudek biologists evaluated the regional special-status plant and wildlife species against observed conditions on the study are to determine the potential for each species to occur. Habitat requirements, occurrence determinations, and rationale for occurrence determination are included in Appendix 4.2A. The potential for each special-status species to occur was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High**. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found onsite.
- **Present.** Species was observed on site or within the Survey Area

4.2.1.7.1 Sensitive and Special-Status Plant Species

Special-status plant surveys were conducted in 2021 and 2023 to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.). Two focused rare plant surveys were conducted by Dudek botanist Erin Bergman on May 5th, 2023, and June 23, 2023, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plants and Sensitive Natural Communities* (CDFW 2018) and *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, proposed, and Candidate Plants* (USFWS 2000). Surveys were conducted during the blooming period for target species. A list of all special-status plant species known to occur in the vicinity of the Survey Area (and the surrounding seven topographic quadrangles) and plant species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur onsite, and survey observations, is provided in Appendix 4.2A. This appendix provides evaluations for each of the special-status species' occurrence in the Survey Area vicinity and their potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that have low potential or are not expected to occur are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur onsite.

No special-status or rare plants were identified in the Survey Area during the 2023 focused rare plant surveys. As such, special-status and rare plants are considered absent from the project site. Based on a review of the potential species to occur within the region, the habitat conditions identified on the project site, and the results of focused botanical surveys conducted on the Survey Area, special-status plant species are considered absent from the Survey Area.

4.2.1.7.2 Sensitive or Special-Status Wildlife Species

Special-status wildlife species are defined as follows:

- have been designated as either rare, threatened, or endangered by CDFW or USFWS and are protected under either the CESA (California Fish and Game Code Section 2050 et seq.) or FESA (16 USC 1531 et seq.), or meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380[b],[d]);
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code (CFG) Sections 3511, 4700, 5050, or 5515;
- are of expressed concern to resource/regulatory agencies or local jurisdictions; this includes those wildlife that are considered a state SSC, are on the CDFW Watch List, are designated as a federal Bird of Conservation Concern, or are considered a state Special Animal; or
- are listed as Covered Species in the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

A list of all special-status wildlife species known to occur in the vicinity of the Survey Area (and surrounding seven quadrangles) and wildlife species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the Survey Area, and survey observations, is provided in Appendices 4.2A, 4.2B, and 4.2D Special-status species with a low potential to occur or species that are not expected to occur are excluded from further discussion in this report.

Additionally, two special-status wildlife species were observed in the Survey Area during the biological surveys: yellow-breasted chat and yellow warbler. Both species are listed as California SSCs when nesting, and were observed during the focused least Bell's vireo surveys conducted on the Survey Area within the cottonwood-willow riparian woodland and mulefat thicket habitats along Oso Creek. The locations of these observations, along with biological resources documented in the Survey Area, are depicted in Figure 4.2.6.

Observed Special-Status Wildlife

Yellow-breasted chat. Yellow-breasted chat is an SSC that inhabits riparian thickets of willow and other bushy tangles near watercourses for cover. This species occurs as an uncommon summer resident and migrant in coastal California and in the foothills of the Sierra Nevada (CDFG 2005). In Southern California, it breeds locally on the coast and very locally inland. In migration it may be found in lower elevations of mountains in riparian habitat. This species breeds from early May into early August, with peak activity in June. Yellow-breasted chat was observed in the southwestern corner of the Survey Area near an unnamed tributary to Oso Creek (Figure 4.2-6)

Yellow warbler. Yellow warbler is an SSC that inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990). This species breeds along the coast of California west of the Sierra Nevada, and eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats. Yellow warbler was observed within several locations in the southern portion of the Survey Area along the riparian corridor associated with Oso Creek (Figure 4.2-6)

4.2.1.7.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting,

shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

The Applicant will protect any active migratory bird nests identified during preconstruction surveys against take. The two proposed transmission lines are raptor safe against electrocution and collisions.

4.2.1.7.4 Bald and Golden Eagle Protection Act

The golden eagle is a state FP species and a CDFW Watchlist (WL) species that is also protected by the federal Bald and Golden Eagle Protection Act. The Applicant's biologists determined that the potential to occur within the Survey Area is not expected for foraging and nesting. Potentially suitable nesting habitat occurs east of and approximately 10 miles outside of the survey area. Birds that may forage near the site may attract eagles. The transmission poles installed as part of the proposed project (one new pole and two replacement poles) will be low in profile (100 feet or less) and are not likely to result in significant bird strikes. The two proposed transmission lines are raptor safe and would parallel existing railroad infrastructure.

4.2.1.7.5 Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

A total of 13 federally endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles. Nine were determined not to be expected on the Survey Area, while one, the least Bell's vireo, has a moderate potential to nest and forage within Oso Creek along the eastern portion of the Survey Area. Protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative for this species. As such, least Bell's vireo is considered absent from the Survey Area, and no federally endangered species are anticipated to occur on the Survey Area.

4.2.1.7.6 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA, under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

A total of 10 state endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles. Of those, eight were determined to not be expected on the Survey Area, and one proposed state endangered species has a low potential to forage within the grassland on the Survey Area (Crotch's bumble bee, *Bombus crotchii*).

Further, the state endangered least Bell's vireo has a moderate potential to nest and forage within Oso Creek on the eastern portion of the Survey Area. Protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative for this species. As such, least Bell's vireo is considered absent from the Survey Area.

Finally, critical habitat for the federally endangered and CESA endangered southern California Distinct Population Segment of the southern steelhead trout occurs 0.5 mile south of the project, in Trabuco Creek. Although Oso Creek occurs immediately east of the project site and connects downstream to Trabuco Creek, it is not fast moving, gravel-bottomed, or well-oxygenated to support southern steelhead habitat. In addition, no project impacts to Oso Creek or any aquatic habitat are proposed. As such, southern steelhead is not expected to occur. ~~a, and n~~

No ~~federally~~ CESA endangered species are anticipated to occur onsite. As a result, neither construction nor operation of the proposed project will adversely affect CESA species.

4.2.1.7.7 State Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP). Within the following are the only state FP species identified within 10 miles the Survey Area.

Golden eagle (*Aquila chrysaetos*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. Suitable habitat occurs approximately 10 miles east of and outside of the Survey Area (CDFW 2024a).

Ridgeway's Rail (*Rallus obsoletus levipes*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the Survey Area (CDFW 2024a).

California black rail (*Rallus jamiacensis coturniculus*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the Survey Area (CDFW 2024a).

California least tern (*Sturnula natillarum browni*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the project site (CDFW 2024a).

White-tailed kite (*Elanus leucurus*). Potential for occurrence is not expected for nesting, but is low for foraging opportunistically in grassland and agricultural land onsite. The nearest occurrence record is 1 mile south of the Survey Area (CDFW 2024a).

4.2.1.7.8 State Species of Special Concern

It is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern (SSC), because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

The following SSC have been documented in the vicinity of the Survey Area and have a potential to occur on the project site, with the level of potential indicated in parentheses:

- **Amphibians:** western spadefoot (low); California newt (not expected).
- **Birds:** yellow warbler (*present*); yellow-breasted chat (*present*); tricolored blackbird (low for foraging); grasshopper sparrow (not expected); long-eared owl (low); burrowing owl (low); coastal cactus wren (not expected); northern harrier (not expected); yellow rail (not expected); coastal California gnatcatcher (not expected).
- **Fish:** arroyo chub (not expected); Santa Ana speckled dace (not expected).
- **Reptiles:** red diamond rattlesnake (moderate); orange-throated whiptail (moderate); northwestern pond turtle (not expected); southern California legless lizard (not expected); California glossy snake (not expected); San Diegan tiger whiptail (not expected); Bainville's horned lizard (not expected); coast patch-nosed snake (not expected); two-striped gartersnake (not expected).
- **Mammals:** pallid bat (moderate); Dulzura pocket mouse (not expected); northwestern San Diego pocket mouse (not expected); Mexican long-tongued bat (not expected); western mastiff bat (low); western red bat (low); San Diego desert woodrat (not expected); pocketed free-tailed bat (low); big free-tailed bat (not expected); southern grasshopper mouse (not expected); southern California saltmarsh shrew (not expected); American badger (not expected).

SSC described above with at least a moderate potential to occur on the Survey Area are described in further detail below.

Red-Diamond Rattlesnake. Red-diamond rattlesnake is an SSC that occurs in southwestern California, from the Morongo Valley west to the coast, and south along the peninsular ranges to mid Baja California (CalHerps 2024). It inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas on the desert slopes of mountains, and rocky desert flats. The breeding period for this species is July through September. This species may inhabit the native scrub and grassland habitat within the Survey Area, but was not observed during any of the biological surveys.

Pallid Bat. Pallid bat is an SSC that occurs in low-elevation rocky arid deserts and canyonlands (lower than 6,000 feet), shrub steppe grasslands, karst formations, and higher-elevation coniferous forests (higher than 7,000 feet) (WBWG 2017). It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Pallid bats roost alone, in small groups (2 to 20 bats), or gregariously (100s of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and various human structures such as bridges, barns, porches, bat boxes, and human-occupied and vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators.

Suitable roosting and foraging habitat for this species occurs within the riparian habitat located in the Survey Area. This species was not observed or detected during biological surveys conducted for the project, but focused bat surveys were not conducted.

4.2.1.7.9 State Special Species

State Special Species are considered to be sensitive but do not have regulatory protection, such as rare plants. Approximately 65 plants known to occur within the San Juan Capistrano 24-K topographic quadrangle map and surrounding seven topographic quadrangles are registered within the CNPS that are not state or federally protected by are considered rare (California Rare Plant Rank 1-4). Of the 65 rare plants identified, none were detected on the Survey Area during the 2021 or 2023 protocol-level rare plant surveys. As such, state special species are considered absent from the Survey Area.

4.2.2 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of construction and operation of the proposed project. Results from the field surveys, habitat evaluations and literature review were evaluated to address the potential for presence of sensitive biological resources within the Survey Area were presented in the prior section.

Section 4.2.2, contained herein, identifies the biological resources that may be affected directly or indirectly and may have temporary or permanent impacts. These impact categories are defined as follows:

Direct. The California Environmental Quality Act (CEQA) defines direct impacts as those that result from the project and occur at the same time and place. Project related activities, such as alteration, disturbance or destruction of biological resources are considered a direct impact.

Indirect. CEQA defines indirect impacts are impacts that are caused by the project but do not occur at the same time but rather at different but a reasonably foreseeable future time.

Permanent. All impacts that result in the irreversible removal of biological resources are considered permanent.

Temporary. Temporary impacts are considered to have reversible effects on biological resources.

4.2.2.1 Significance Criteria

Factors typically used to evaluate the significance of project-related impacts are set forth in Appendix G CEQA. Biological impacts resulting from the project were assessed by the following criteria:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, threatened, candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, NCCP, or other approved local, regional, or state habitat conservation plan.

4.2.2.2 Potential Impacts of Construction

The project components will require a total project impact area of approximately 14.1 acres, which includes 14.02 acres of direct permanent impacts and 0.08 acre of temporary impacts to the vegetation communities and land covers on the Survey Area.

4.2.2.2.1 Impacts to Sensitive Vegetation Communities

Direct Impacts

Direct permanent impacts would occur to a total of approximately 14.02 acres of non-native vegetation communities and land covers from development. The total acreage for project-related impacts to the mapped vegetation communities located within the development area are provided in Table 4.2-3.

Table 4.2-3. Project Impacts to Vegetation Communities and Land Cover Types

Vegetation Communities and Land Cover Types	Temporary Impacts (Acres)	Direct Impacts (Acres)
Non-Native Vegetation Communities and Land Covers		
Agriculture (AGR)	0.02	10.80
Urban/Developed (DEV)	0.02	1.44
Disturbed Habitat (DH)	NA	1.72
Ornamental (ORN)	0.04	0.02
Upland Mustards (UM)	NA	0.04
Subtotal Acres	*0.08*	*14.02*
Total Acres	**0.08**	**14.02**

Notes: NA = Not Applicable.

As currently designed, the proposed project would result in a total of approximately 14.02 acres of direct permanent impacts to non-native vegetation communities and land covers through the removal of vegetation and grading of land on the BESS, substation, and switchyard project footprint, development of the off-site access road, as well as the replacement of two transmission poles and installation of one new southern transmission pole. Project-related impacts to non-native vegetation communities and land covers are not considered significant because they are not considered sensitive natural communities by CDFW.

In addition, the proposed Project would result in a total of 0.08 acre of temporary impacts to non-native vegetation communities from installation of the replacement/new transmission poles and installation of the stormwater discharge line.

The project would result in no permanent direct impacts to native vegetation communities, as the proposed transmission lines stretch overhead above Oso Creek and the associated native riparian vegetation. No vegetation removal of mulefat thickets or cottonwood-willow riparian woodland will occur from construction or operation of the project. Furthermore, no direct impacts to Oso Creek will occur from project implementation. As such, **no direct impacts** to sensitive vegetation communities will occur.

Indirect Impacts

Construction-related indirect impacts may include inadvertent spillover impacts outside of the construction footprint, dust accumulation on adjacent native habitats, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk. To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the South Coast Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Since Oso Creek occurs beneath the proposed overhead transmission lines and contains sensitive Fremont cottonwood-willow woodland vegetation with riparian mulefat thickets, a Stormwater Pollution Prevention Plan (SWPPP) would also be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP and BMPs would help to avoid and minimize the potential effects of stormwater erosion during construction. As such, with implementation of a SWPPP and BMPs, indirect impacts to sensitive vegetation communities would be **less than significant.**

Example BMPs to employ on site during construction to reduce potential indirect impacts to sensitive vegetation communities may include the following:

- Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries.
- The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of

each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.

- All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.

4.2.2.2.2 Construction Impacts to Special-Status Plant Species

No listed special-status plant species were observed during either of the focused botanical surveys conducted in the Survey Area or have high or moderate potential to occur within the Survey Area. The focused botanical surveys were conducted during the time of year when any of the special-status plant species identified in Appendix 4.2A with a potential to occur would be blooming. Reference checks were also conducted to ensure known populations of target plant species were in bloom. Despite the lack of rainfall in spring 2021, special-status plant species with a potential to occur would have been in bloom and conspicuous when surveyed, if present, during the 2023 rare plant surveys, due to above average rainfall in winter of 2022 and spring of 2023. No temporary or permanent impacts to special-status plant species will occur from construction and operation of the proposed project as the results of the 2021 and 2023 protocol-level rare plant surveys on the Survey Area are negative. Therefore, the project would have **no direct or indirect impacts** to any special-status plant species.

4.2.2.2.3 Construction Impacts to Special-Status Wildlife Species

Direct Impacts

Temporary and permanent direct impacts to special-status wildlife could occur from construction and operation of the proposed project. The Survey Area contains suitable habitat to support six special-status wildlife species that were either observed during focused surveys or have a moderate to high potential to occur based on the presence of suitable habitat. The two species observed during focused surveys are yellow-breasted chat and yellow warbler, which are both listed by CDFW as SSC and occur within riparian habitats such as those found within Oso Creek. Focused surveys were conducted for least Bell's vireo in 2021 and 2023 to determine presence/absence of this species since it has a moderate potential to forage and nest within the riparian habitat on the Survey Area. The results were negative both years; as such, least Bell's vireo is currently considered absent from the Survey Area, and construction of the project would have no impact on this species. Note that the transmission lines proposed for the project will traverse over Oso Creek, and as such, will not directly impact the creek or its associated native riparian woodland vegetation, in which the yellow-breasted chat and yellow warbler were observed on the Survey Area.

No direct impacts to suitable habitat for riparian bird species would occur as a result of construction of the proposed project. Since suitable habitat for yellow-breasted chat and yellow warbler would be avoided by the project, and least Bell's vireo is determined to be absent from the Survey Area, the project would have **no direct impact** on special-status wildlife species.

~~Three~~ Four other special-status wildlife species have at least a moderate potential to occur: Red diamond rattlesnake and pallid bat are listed by CDFW as SSC, and California horned lark and orange-throated whiptail are ~~is a~~ Watch List species. Therefore, significant direct impacts to these species c~~w~~ould occur by the project if construction activities result in the greater population of ~~the~~ either species to dip below self-sustaining levels. None of these species were observed in the Survey Area during any of the biological surveys conducted during 2021 and 2023. However, due to the presence of suitable habitat, the potential for these species to move into the project site in the future cannot be entirely ruled out. Therefore, if a population of these species is found ~~in~~ on the project site prior to the start of construction, the project could result in a significant direct impact to these species. Project implementation of **MM-BIO-1** would reduce potential impacts to **less than significant**. See Section 4.2.4.2 for further details on mitigation measures for the project.

Nesting Birds and Raptors

Similar to most other sites containing trees, shrubs, and other vegetation, the Survey Area contains opportunities for birds of prey (raptors) and other avian species to nest. Native nesting bird species with potential to occur within the project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs," and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Potential direct impacts to nesting birds may occur during Project construction if construction activities commence during the avian breading season of February through August via direct take or nest failure, which would be considered significant. To avoid potential project-related impacts to nesting birds, implementation of **MM-BIO-2** would reduce potential impacts to **less than significant**.

Indirect Impacts

During construction activities, indirect impacts to sensitive wildlife in Oso Creek could include construction-related dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability. Without construction-related minimization measures to control dust, erosion, and runoff, and without compliance with National Pollutant Discharge Elimination System (NPDES) requirements, indirect impacts to riparian resources and upland communities could occur. However, standard construction BMPs to control dust, erosion, and runoff, including straw bales and silt fencing, would be implemented to minimize these adverse effects. Additionally, implementation of **MM-BIO-1** to reduce direct impacts to special-status wildlife species would also contribute to the reduction of indirect impacts to **less than significant**.

4.2.2.2.4 Impacts to Wildlife Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an

area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The project is located in an undeveloped area that has been subject to previous disturbances related to previous and ongoing agricultural activities. This undeveloped area also occurs immediately adjacent to development such as the church facility to the north, residential development to the west, and Interstate 5 to the east. However, the approximately 2 miles of undeveloped land to the south provides opportunities for small- to medium-sized wildlife species to move through the area. Additionally, Oso Creek, located along the eastern portion of the Survey Area, provides opportunities for mammals, fish, and bird species to travel along the creek from upstream locations in Trabuco Canyon, south toward the Pacific Ocean. Downstream portions of Oso Creek are channelized but still provide opportunity for wildlife movement. The Survey Area and immediate surroundings are not mapped as a significant wildlife corridor or habitat linkage in the region, but do function as a corridor for the movement of local wildlife.

No significant direct or indirect permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with project activities. Existing habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following project completion. Construction activities would not likely result in permanent impacts to wildlife movement because no new structures that would impede wildlife movement are proposed.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Some indirect impacts to localized wildlife movement could occur during construction activities due to construction-related noise. However, this impact would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

Therefore, direct and indirect impacts on wildlife corridors and migratory routes resulting from the proposed project would be **less than significant**.

4.2.2.2.5 Impacts to Wetlands and Waters of the United States

The results of the 2021 and 2023 jurisdictional delineation identified Oso Creek as a jurisdictional non-wetland water of the U.S. subject to USACE jurisdiction, Regional Water Quality Control Board (RWQCB), and CDFW, due to the presence of an Ordinary High-Water Mark, downstream connectivity to a Traditionally Navigable Water (TNW) (Pacific Ocean), and presence of mature riparian habitat. Impacts to Oso Creek may require permitting from USACE, RWQCB, and CDFW, including but not limited to a Streambed Alteration Agreement and CWA Section 404 and 401 permits.

The jurisdictional delineations informed the design and placement of improvements to ensure avoidance of any work within CDFW or Clean Water Act (RWQCB and USACE) jurisdiction. Figure 4.2-1 depicts the water features detected on the project site during the jurisdictional delineations.

The results of the 2021 and 2023 jurisdictional delineation performed by Dudek biologists concluded that there is approximately 1.40 acres of non-wetland waters of the United States and State, and approximately 20.64 acres of CDFW non-wetland waters in the Survey Area. Table 4.2-4 summarized the jurisdictional aquatic resources within the Survey Area.

Table 4.2-4. Summary of Jurisdictional Aquatic Resources within the Survey Area

Jurisdiction	Project Boundary (acres/linear feet)	Survey Area (acres/linear feet)	Total (acres/ linear feet)
Waters of the United States (USACE/RWQCB)			
Non-Wetland Waters			
Oso Creek OHWM	0.0/0.0	1.17/4,056	1.17/4,056
Stream 1 OHWM	0.0/0.0	0.21/1,474	0.21/1,474
Stream 1 – Concrete Channel OHWM	0.0/0.0	0.02/125	0.02/125
Waters of the United States and State (USACE/RWQCB) Total*	**0.0/0.0**	**1.40/5,655**	**1.40/5,655**
Waters of the State (CDFW)			
Non-Wetland Waters			
Oso Creek OHWM	0.0/0.0	1.17/4,056	1.17/4,056
Oso Creek Bank	0.0/0.0	0.71/3,655	0.71/3,655
Oso Creek Riparian	0.0/0.0	15.36/4,224	15.36/4,224
Stream 1 OHWM	0.0/0.0	0.21/1,474	0.21/1,474
Stream 1 – Concrete Channel OHWM	0.0/0.0	0.02/125	0.02/125
Stream 1 Bank	0.0/0.0	0.17/1,474	0.17/1,474
Stream 1 – Concrete Channel Bank	0.0/0.0	0.02/125	0.02/125
Stream 1 Riparian	0.0/0.0	2.92/1,578	2.92/1,578
Swale 1	0.0/0.0	0.03/189	0.03/189
CDFW Jurisdiction Total*	**0.0/0.0**	**20.64/16,900**	**20.64/16,900**

Notes:
OHWM = ordinary high-water mark
* Totals may not exactly sum due to rounding.

No direct impacts to jurisdictional aquatic resources will occur from construction or operation of the proposed project. However, stormwater runoff from the existing project development area currently sheet flows to Oso Creek. As part of the project, to meet regulatory standards and reduce potential for stormwater to be discharged off site in exceedance of existing conditions, offsite and onsite stormwater will flow to an underground stormwater detention basin located in the central portion of the Survey Area. A waterline will be constructed from the proposed onsite stormwater detention basin and pumped north to the existing 18-inch and/or 30-inch storm drainpipe/outfalls located north, which currently discharge into the unvegetated channelized portion of Oso Creek.

The Applicant will obtain an MS4 permit from the RWQCB through Orange County Flood Control District to discharge into the two outfalls into Oso Creek (see Section 4.15, Water Resources for additional details). No impacts to jurisdictional aquatic resources will occur from project development. A SWPPP would be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. BMP categories employed would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP help to avoid and minimize the potential effects of stormwater erosion during construction and impacts would be **less than significant**.

4.2.2.3 Potential Impacts of Operation

The BESS and all associated equipment will be remotely monitored and controlled. Qualified technicians would visit the site approximately 1-2 times per month to conduct routine inspections and maintenance as well as semiannual and annual services. Periodically, batteries and various components may be replaced or renewed to ensure optimal performance.

During operation, the project will produce water discharge, noise, and light. Following construction, the proposed use would not create emissions to air, would not require sanitary facilities, and would not require water. Operational water will be limited to water necessary for landscape irrigation and to supply on-site fire hydrants.

4.2.2.3.1 Noise and Light

The project site contains undeveloped land. Although there is a church and ancillary facilities north of the survey area , the existing conditions result in minimal sources of noise emissions. Operations of the project will produce some noise as described in Section 4.7, Noise.

As discussed in Section 4.13, Visual Resources, sources of light come from Saddleback Church, the railroad, cars from the I-5 freeway east of the Survey Area, numerous safety lights associated with the utility corridor for the Trabuco-Capistrano overhead transmission poles outside of the project site boundary. The project will introduce new light sources into the existing nighttime environment such as facility lighting for safety and security purposes and access road lighting. The outside lighting may include a combination of pole-mounted LED lighting and equipment-mounted fixtures. The Applicant will apply best practices to minimize the effects of obtrusive exterior lighting and make these light sources motion activated when possible. These practices include shielding light fixtures directed downward and scheduling controls.

Based on the project equipment and the limited application of outdoor lighting and best practices, nose, and light impacts from project operations will likely have a **less than significant** impact on special-status wildlife.

4.2.2.3.2 Potential for Collision and Electrocution Hazard to Wildlife

The new facility will include multiple structures that range in height from 10 to 32 feet tall. The tallest structure on the project site is the switchyard bus workat 32 feet above ground level. The two replacement poles and one new transmission pole as part of the loop-in transmission line will be up to 100 feet above ground. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions. The collisions typically occur when migrating birds collide with tall, guyed television or radio transmission towers (CEC 1995, Kerlinger 2000). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features or when inclement weather forces the birds closer to the ground. Based on the project's design and location, operations are likely to result in **less than significant** impacts from potential collisions.

Bird collisions with electric conducting wires occur when birds are unable to see the lines, especially during fog or rain events. Factors that affect the risk of collision include weather conditions, behavior of the species of bird, and design and location of the line.

Electrocutions occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these components. On a 138-kW transmission line, all clearances between conductors or

between conductors and ground are sufficient to protect even the largest birds provided recommended horizontal and vertical spacing (55 – 76 inches) are used for conductor separation according to the Avian Power Line Interaction Committee (APLIC 2006). As such, operation of the project will not result in adverse impacts to wildlife from electrocution.

4.2.2.3.3 Effects of Operation on Special-Status Species

Impacts to Special-Status Plants

Based on the facility's design and absence of special-status plants on the Survey Area, operations will have **no impact** to special-status plant species and their habitat.

Impacts to Sensitive and Special-Status Wildlife Species

It is the proposed facility's intention to anticipate the potential for low-frequency noise in the design and specification of the project equipment and to take necessary steps to prevent ground or airborne vibration impacts. Only a nominal amount of habitat outside of the project site will experience noise levels within the 60 A-weighted decibel (dBA) equivalent sound level (Leq) contour (see Section 4.7, Noise). The two special-status wildlife species observed on the project site (yellow warbler and yellow-breasted chat) were detected in riparian habitat associated with Oso Creek, which parallels the I-5 freeway as well as active railroad tracks. As such, they are expected to adapt to the new noise levels that are less than the typical noise effect threshold of 60 dBA Leq hourly. Ambient noise levels and ground vibration from the operation of the proposed facility will be **less than significant**.

~~While lighting required during facility operation will create prominent new sources of light for nearby wildlife, effects from light will not result in substantial light or glare. Based on the localized adverse effect of new mitigated light sources, the long-term impact to special-status wildlife from facility-generated light will be less than significant. Based on the project's design, the facility's operations will have a **less than significant** impact on special-status wildlife species and their habitat.~~

4.2.2.3.4 Operation Phase Impacts to Wetlands and Waters of the United States

The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the U.S. during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have **no impact** to wetlands and waters of the U.S.

4.2.3 Cumulative Effects

Cumulative effects on biological resources because of past, present, and reasonably foreseeable future actions, in combination with the project, would mainly result from loss of habitat and habitat disturbance and degradation. A cumulative impact refers to a project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the facility (Public Resource Code [PRC] Section 21083; 14 CRR 15064[h], 16065[c], 15130, and 15355). Most of the projects in the vicinity of the project involve infill development and redevelopment on developed parcels which have limited potential for sensitive biological resources. As such, the project is unlikely to have impacts that would combine cumulatively with other closely related past, present, and reasonably foreseeable future projects to cumulatively impact biological resources.

4.2.4 Avoidance and Minimization Measures

The following section describes the measures that are intended to avoid and minimize potential adverse effects of the project to biological resources.

4.2.4.1 Minimization Measures for Construction

Pre-Construction Surveys. As described in **MM-BIO-1** in the following subsection, prior to the onset of work, a qualified biologist shall conduct a pre-construction survey for sensitive biological resources within and near the project site. Should special-status species be found, then measures recommended by the qualified biologist shall be incorporated into the project to reduce the likelihood of species impacts.

Nesting Bird Season Avoidance. As detailed in **MM-BIO-2** in the following subsection, potential impacts exist for avian species during the breeding season occurring between February 1 and August 31 for general nesting birds and January 1 through September 15 for raptors. Work conducted during these months will require a nesting bird survey conducted by a qualified biologist within and near the project footprint within 72 hours of the onset of activities. Should the qualified biologist discover any nesting birds, then appropriate measures, as determined by the qualified biologist, will be implemented to minimize impacts.

Best Management Practices (BMPs). No significant direct permanent impacts would occur to federally or state-defined wetlands or non-wetland waters as a result of project activities. Short-term and long-term indirect impacts to jurisdictional waters relating to construction activities (edge effects) and trash/pollution would not likely result in significant impacts, especially with the application of the standard BMPs that would be implemented during project construction.

The following BMPs will be implemented:

- BMPs to address erosion and excess sedimentation shall be incorporated into the project plans.
- Work shall be limited to the construction footprint as outlined in the project plans. Access routes, staging areas, and the total footprint of disturbance shall be the minimum number/size necessary to complete the project and will be selected/placed to avoid impacts to sensitive habitat/resources.
- Sensitive resources will be marked and protected by temporary fencing (e.g., orange plastic fencing, silt fencing, signage) or other acceptable method. Works limits will be clearly marked in the field and confirmed by the project biologist/biological monitor prior to the start of construction. All staked/fenced boundaries will be maintained in good repair throughout construction.
- Where applicable, weed-free products shall be used to minimize the accidental spread of exotic plants. All construction equipment used for the project shall be clean and free of soil and plant material before arrival on-stie and before leaving the work area to prevent the spread of invasive plants.
- All storage and staging areas should be placed on existing developed or disturbed locations to the greatest extent feasible (e.g., paved, or bare ground surfaces) that have been reviewed and approved by the project biologist and project archaeologist.
- All areas used for stockpiling shall be kept free from trash and other waste. No project-related items shall be stored outside approved staging areas at any time.
- All contractor equipment and vehicles shall be inspected for leaks immediately prior to the start of construction, and regularly thereafter until the equipment and/or vehicles are removed from project

premises. Any leaks shall be properly contained, or the equipment/vehicle(s) repaired, and if failing repair, removed off-site.

- Unless authorized by regulatory authority, project activities particularly involving cleaning or fueling or motorized equipment, will occur greater than 100 feet from jurisdictional or potentially jurisdictional waters. Contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside project boundaries at a lawfully authorized destination.
- Dust impacts shall be minimized by implementing appropriate measures that will reduce/control emissions generated by the project. water shall be applied (e.g., using a water truck) at sufficient quantities to prevent airborne dust from leaving the project area.
- In areas of excavation (e.g., pits, trenches, drilling holes) shall be covered overnight or during periods of inactivity. Routes of escape from excavated pits and trenches shall also be installed for wildlife that could potentially become entrapped (e.g., wood planks, sticks, or equivalent with dimensions of roughly 2-inch thick by 6-inch wide, and earthen ramps/slopes). These locations will be regularly inspected over the course of the project and immediately prior to filling. Should any entrapped wildlife be discovered, then work shall be suspended at the excavation site until the animal can be safely relocated by the biological monitor or project biologist.

4.2.4.2 Minimization Measures for Special-Status Species

MM-BIO-1 Pre-Construction Surveys for Special-Status Species. One pre-construction clearance survey for red diamond rattlesnake and pallid bat shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire project site to determine if any red-diamond rattlesnakes or pallid bats are observed or detected. Acoustic detection for bats may be used in conjunction with visual observation of individuals and sign to determine presence/absence of occupied roosts or foraging behavior. If either species is observed or detected during the pre-construction surveys, additional measures may be required, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to move observed individuals out of harm's way. For pallid bat, if a roost may be impacted during construction, additional measures, such as a focused bat survey, replacement roost installation, and/or agency consultation, may be required.

MM-BIO-2 Pre-Construction Nesting Bird Surveys and Avoidance. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the Survey Area, including yellow warbler, yellow-breasted chat, and California horned lark. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act (16 USC 703–712) and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest, which shall be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall also be conducted when construction

occurs in proximately to an active nest buffer. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged and the nest is no longer active.

Environmental Awareness Training. A qualified biologist shall present an education program on yellow warbler, yellow-breasted chat, California horned lark, orange-throated whiptail, red diamond rattlesnake, and pallid bat to all project employees prior to the start of construction and before new employees begin work onsite. Materials discussed in the program will include, at a minimum, the following topics: (1) species description, general behavior, and ecology; (2) distribution and occurrence near the project site; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of State and Federal Laws; (6) reporting requirements; and (7) project conservation measures. The biological monitor shall document the names, dates, and affiliation of those persons who attend the training.

4.2.4.3 Minimization Measure for Site Restoration (Decommissioning)

Over the long term, once the project facilities are no longer needed, the structures will be removed the project area will be restored to approximate preconstruction conditions as described in the draft Decommissioning Plan (see Appendix 2A). This draft plan can then be updated at a later date (but no more than 1 year prior to closure). A formal plan for the project facility closure will be developed by the project owner and submitted to the CEC at least 1 year prior to facility closure.

MM-BIO-3 Prior to commencing decommissioning activities and at least 12 months in advance of planned decommissioning, the applicant shall file a decommissioning plan with the CEC Compliance Project Manager (CPM) for approval. The decommissioning plan shall:

- Identify and discuss the proposed decommissioning and site restoration activities for the project and all appurtenant facilities constructed as a part of/or because of the project;
- Identify all applicable laws, ordinances, regulations, standards, (LORS) and local/regional plans applicable at that time;
- Discuss how the specific proposed decommissioning activities would comply with those identified LORS and plans;
- Discuss the reasons for selecting the preferred proposal; and
- Provide a schedule for decommissioning and identify the final reporting that shall be required to demonstrate that decommissioning was completed in compliance with the CEC-approved decommissioning plan.

4.2.5 Laws, Ordinances, Regulations, and Standards

The following subsections describe the laws, ordinances, regulations, and standards (LORS) that apply to potential impacts on biological resources in the project area and list the agencies responsible for enforcing the regulations. A summary of the applicable federal, state, and local LORS is provided below.

4.2.5.1 Federal

4.2.5.1.1 Federal ESA (16 United States Code [USC] 153 et seq.)

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

4.2.5.1.2 MBTA (16 USC 703 to 711)

The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

4.2.5.1.3 Bald and Golden Eagle Protection Act (16 USC 668)

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permits issues by the Secretary of the Interior, from "taking" bald or golden eagles, includes their parts, nests, or eggs. The Act provides criminal penalties for person who "take, possess, sell, purchase, bater, offer to sell, transport, export or import, at any time or ay manner, any bald eagle…[or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, kill, wound, capture, trap, collect, molest or disturb."

4.2.5.2 State

4.2.5.2.1 CESA

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA,

under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

4.2.5.2.2 Fish and Game Code

Sections 3500, 3511, and 3513

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Section 5901

Section 5901 of the California Fish and Game Code makes it unlawful to construct or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined in Section 45 as a wild fish, mollusk, crustacean, invertebrate, or amphibian, or part, spawn, or ovum of any of those animals.

Section 5937

Section 5937 of the California Fish and Game Code requires that the owner of any dam must allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by CDFW to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam to keep in good condition any fish that may be planted or exist below the dam, when, in the judgment of CDFW, it is impracticable or detrimental to the owner to pass the water through a fishway.

Section 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of a definable bed and banks and existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete, certified California Environmental Quality Act (CEQA) document.

4.2.5.2.3 California Native Plant Protection Act

The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. The CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

4.2.5.2.4 Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, the State Water Resources Control Board has narrowed its definition of a water of the state to include the following (SWRCB 2019):

1. Natural wetlands
2. Wetlands created by modification of a surface water of the state
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration
    b. Specifically identified in a water quality control plan as a wetland or other water of the state

c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape

d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

4.2.5.2.5 Plants and Animals of California Declared to be Endangered or Threatened (Title 14, CCR, Sections 670.2 and 670.5

These codes list plants and animals designated as threatened or endangered in California. State SSC is a category conferee by CDFW of those species that are indicators of regional habitat change or are considered potential future protected species. These species do not have any species legal status but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

4.2.5.2.6 CEQA (PRC Section 15380)

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The State of California CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader

list than those species that are protected under the FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on the CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank 1 and 2 by the California Native Plant Society, and potentially some California Rare Plant Rank 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

4.2.5.2.7 Warren Alquist Act (PRC Section 25000, et seq.)

The AFC process is a certified regulatory process pursuant to the Warren-Alquist Act and, therefore, fulfills the requirements of CEQA. CEQA is codified in the California PRC, Section 2100-2118.1. Guidelines for implementation of CEQA are codified in the California Code of Regulations (CRR), Sections 15000-15387.

4.2.5.3 Local

4.2.5.3.1 San Juan Capistrano General Plan

The City of San Juan Capistrano General Plan includes goals and policies designed for the protection of natural resources within the city limits. To preserve the important biological resources within the city for future generations, and to preserve the quality of life in the community that these resources contribute, these important ecological and biological resources need to be protected through implementation of the following goals and policies (City of San Juan Capistrano 1999):

Conservation and Open Space Goal 2: Protect and preserve important ecological and biological resources.

Policy 2.1: Use proper land use planning to reduce the impact of urban development on important ecological and biological resources.

Policy 2. 2: Preserve important ecological and biological resources as open space.

Policy 2.3: Develop open space uses in an ecologically sensitive manner.

Policy 2.4: Continue to designate the City as a bird sanctuary to preserve and protect the populations of all migratory birds which serve as a prime resource to the character and history of the community.

Conservation and Open Space Goal 7: Protect water quality.

Policy 7.1: Coordinate water quality and supply programs with the responsible water agencies.

Policy 7.2: Encourage the production and use of recycled water.

Policy 7.3: Conserve and protect watershed areas.

4.2.5.3.2 City of San Juan Capistrano Municipal Code

Section 9-3.557 of the City of San Juan Capistrano Municipal Code requires tree preservation of existing trees within the City of San Juan Capistrano while permitting reasonable use and development of properties containing such trees, as well as the reasonable trimming and maintenance of such trees. The city's definition of a protected tree includes any living woody perennial plant having a trunk diameter greater than 6 inches, measured at a point 3 feet above the ground. This ordinance prevents any property owner or his or her agent in any district in the city that will cause any tree on his or her property to be severely trimmed, unless prior approval is given by the Planning Director, upon recommendation of an arborist. This ordinance also provides suggested tree trimming standards to preserve the health, beauty, and longevity of trees. Trimming for such purpose would also make trees safer, more functional, and valuable.

4.2.5.3.3 Habitat Conservation Plan

The Natural Community Conservation Act, codified at California Fish and Game Code Sections 2800–2840, authorizes the preparation of Natural Community Conservation Plans (NCCPs) to protect natural communities and species while allowing a reasonable amount of economic development. At the same time, FESA Section 10 provides for the preparation of Habitat Conservation Plans (HCPs) to permit the taking of federally listed threatened and endangered species. Under both state and federal statutes, joint planning processes result in the preparation and adoption of an NCCP/HCP. The proposed Project's Survey Area is within the NCCP/HCP area for the County of Orange Central and Coastal Subregion, specifically within the Central Subregion of the NCCP/HCP area (County of Orange 1996), and is therefore analyzed in this report in the context of the NCCP/HCP with regards to the special-status species identified in the NCCP/HCP and the mitigation provisions of the NCCP/HCP.

The NCCP/HCP was reviewed and approved by USFWS and the California Department of Fish and Game (now CDFW) in 1996 to address protection and management of coastal sage scrub habitat, coastal sage scrub obligate species, and other covered habitats and species, and to mitigate anticipated impacts to those habitats and species on a programmatic, sub-regional level rather than on a project-by-project, single-species basis (County of Orange 1996).

A Southern Subregion NCCP/HCP was proposed, but the California Department of Fish and Game did not adopt it. However, USFWS finalized the Southern Subregion HCP to authorize development of Rancho Mission Viejo and select County of Orange projects (i.e., expansion of a landfill and an extension of La Pata). There is an in-lieu fee program authorized for only a few select development sites within Cotoa de Caza (USFWS 2007)~~Snyder 2012~~).

The Central and Coastal Subregion NCCP/HCP (herein referred to as "NCCP/HCP") includes a habitat reserve in excess of 37,000 acres for the protection of coastal sage scrub, other upland habitats, coastal California gnatcatcher (*Polioptila californica californica*), and other primarily coastal sage scrub–dependent species. Specifically, the NCCP/HCP, USFWS, and CDFW authorize "take" under the FESA and CESA of 39 "identified species" of plants and wildlife (including "covered" and "conditionally covered" species). Further, the NCCP/HCP contains requirements for adaptive management, interim management, and funding management for the habitat reserve, as well as procedures and minimization measures related to the take of identified species and habitat. Thus, the NCCP/HCP provides for the protection and management of a broad range of plant and wildlife populations while providing certainty to the public and affected landowners with respect to the location of future development and open space in the subregion (County of Orange 1996).

The project site occurs within the NCCP/HCP area, specifically within the Coastal Subarea Plan area, and does not occur within any mapped habitat reserve areas. Project-related impacts to covered species and/or covered

sensitive habitats would require compliance with the mitigation plan for participating landowners; however, non-signatories to the NCCP/HCP would be required to comply with local, state, and federal policies that pertain to mitigating for impacts to special-status species and sensitive natural communities.

4.2.6 Permit and Permit Schedule

No permits are required.

4.2.7 Agency Contacts

The table below lists regulatory agency contacts for biological resources for this project.

Natural Resource	Agency	Contact Information
State-listed species	CDFW - Region 5, South Coast	David Mayer, Environmental Program Manager Jennifer Turner, Environmental Scientist Supervisor (858) 467-4201; AskR5@wildlife.ca.gov 3883 Ruffin Road, San Diego, California 92123
Federally-listed species	USFWS - Pacific Southwest Region, Carlsbad Field Office	(760) 431-9440 2177 Salk Avenue Suite 250 Carlsbad, California 92008

4.2.8 References

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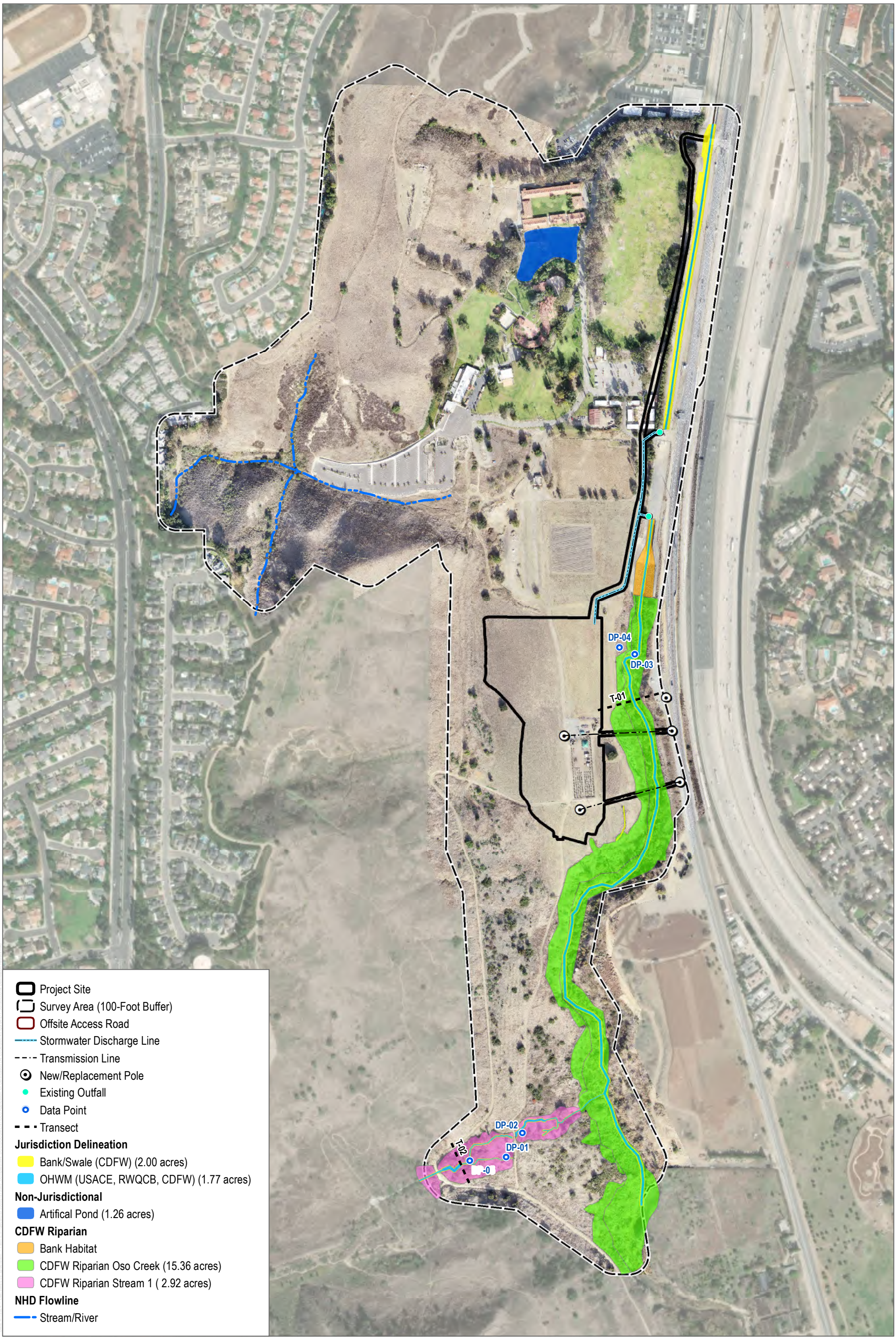

SOURCE: Dudek 2021 & 2023; Esri World Imagery 2019; NHD 2018

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0 250 500 Feet

FIGURE 3

DR BIO-5. Updated Figure 4.2-1, Jurisdictional Delineation Results

Compass Battery Energy Storage Project

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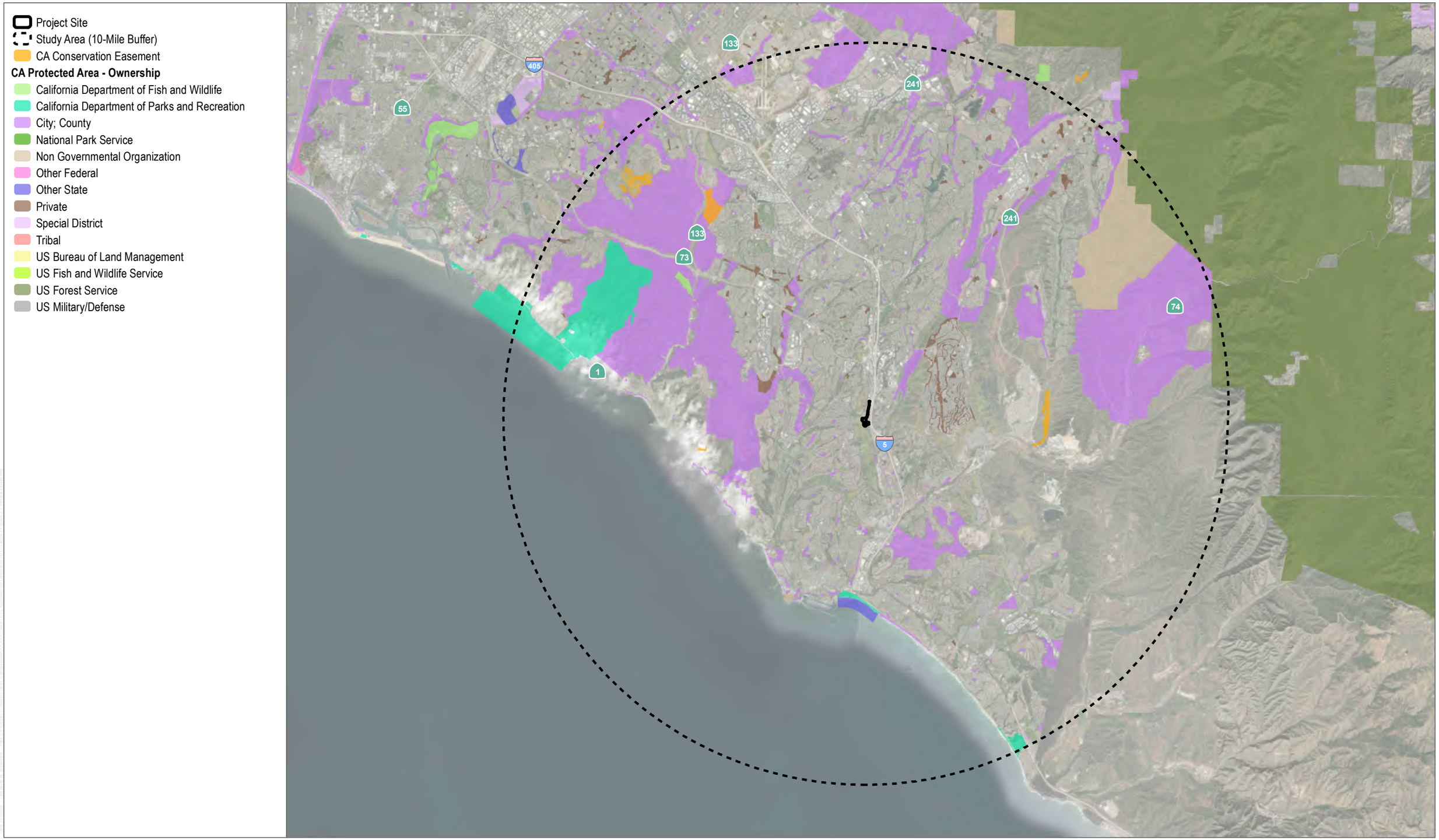

SOURCE: Esri World Imagery; CPAD 2022; CCED 2022

DUDEK

FIGURE 4.2-2

Protected Areas

Compass Energy Storage Project

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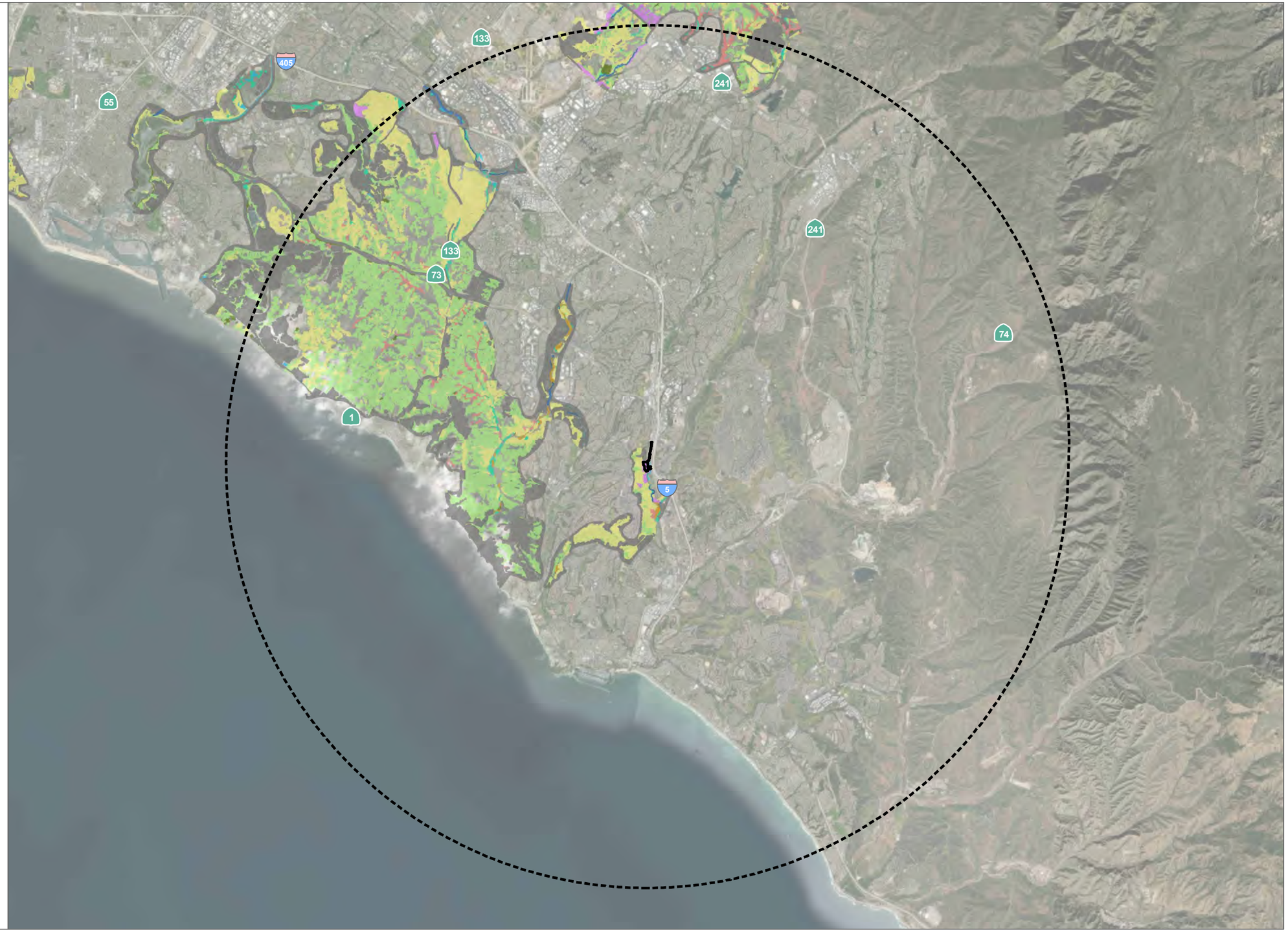
Project Site

Study Area (10-Mile Buffer)

CDFW Vegetation

- Agriculture, Orchard Agriculture
- Annual Grasses and Forbs, Perennial Grasses and Forbs
- Baccharis (riparian)
- California Sagebrush
- Coast Live Oak
- Giant Reed/Pampas Grass
- Riparian Mixed Hardwood
- River/Stream/Canal, Barren
- Soft Scrub-Mixed Chaparral, California Sagebrush
- Urban



SOURCE: Esri World Imagery 2022; CAFWS 2012

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FIGURE 4.2-3

Sensitive Habitat Types

Compass Energy Storage Project

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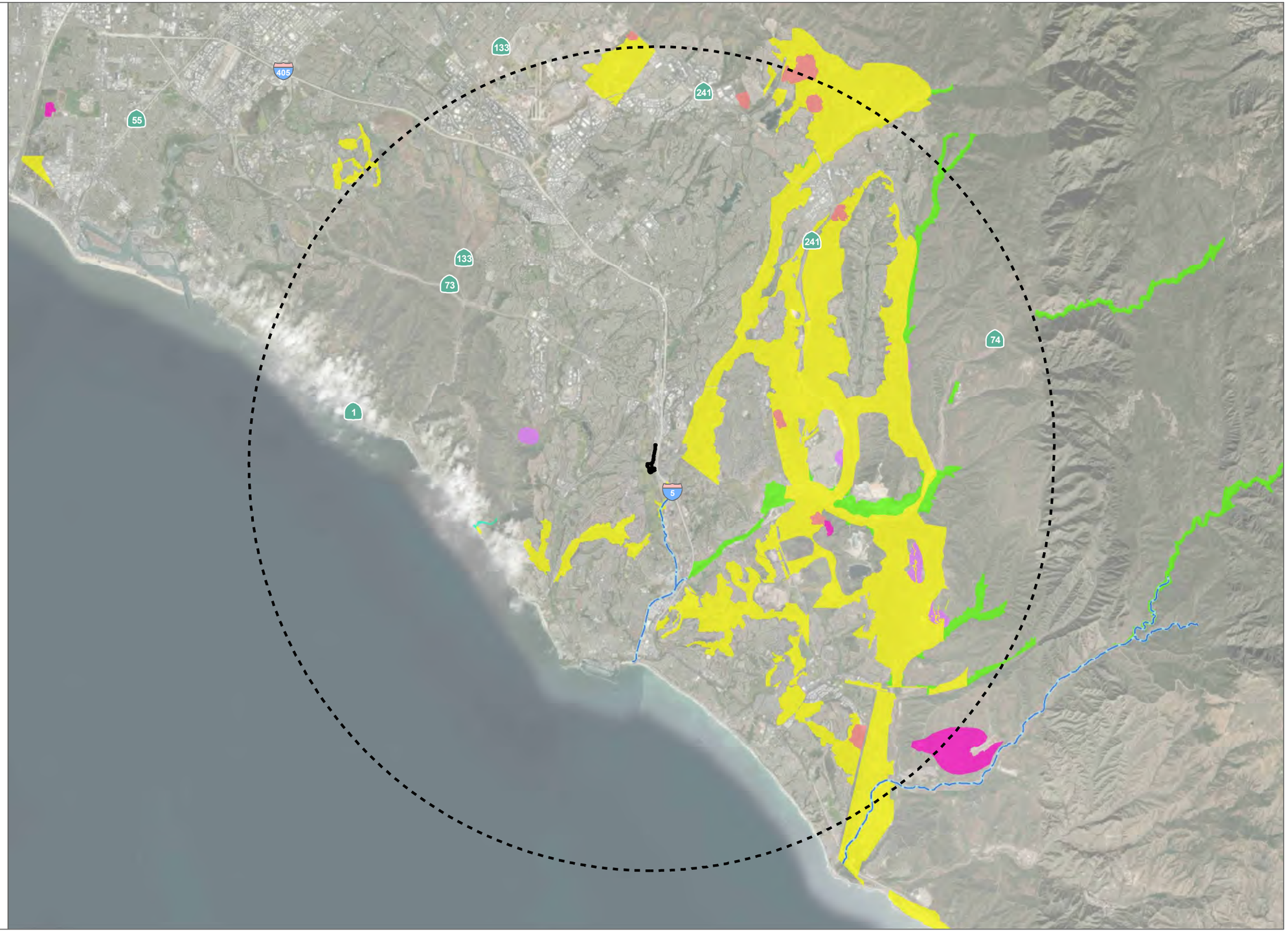
- Project Site
- Study Area (10-Mile Buffer)
- Steelhead (*Oncorhynchus mykiss*
- Riverside fairy shrimp (*Streptocephalus woottoni*
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Tidewater goby (*Eucyclogobius newberryi*
- Thread-leaved brodiaea (*Brodiaea filifolia*
- San Diego fairy shrimp (*Branshinecta sandiegonensis*
- Arroyo toad (*Anaxyrus californicus*



SOURCE: Esri World Imagery; USFWS 2023

DUDEK

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FIGURE 4.2-4

Critical Habitat

Compass Energy Storage Project

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Project Site
Study Area (500-Foot Buffer)
Offsite Access Road
Transmission Line
New/Replacement Pole
Least Bell's Vireo Survey Area

SOURCE: Dudek 2021; Esri World Imagery 2019

DUDEK

0 250 500 Feet

FIGURE 4.2-5

Least Bell's Vireo Survey Area

Compass Energy Storage Project

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Project Site
Project Site - 10 Mile Buffer

CNDDB

Plant Occurrences

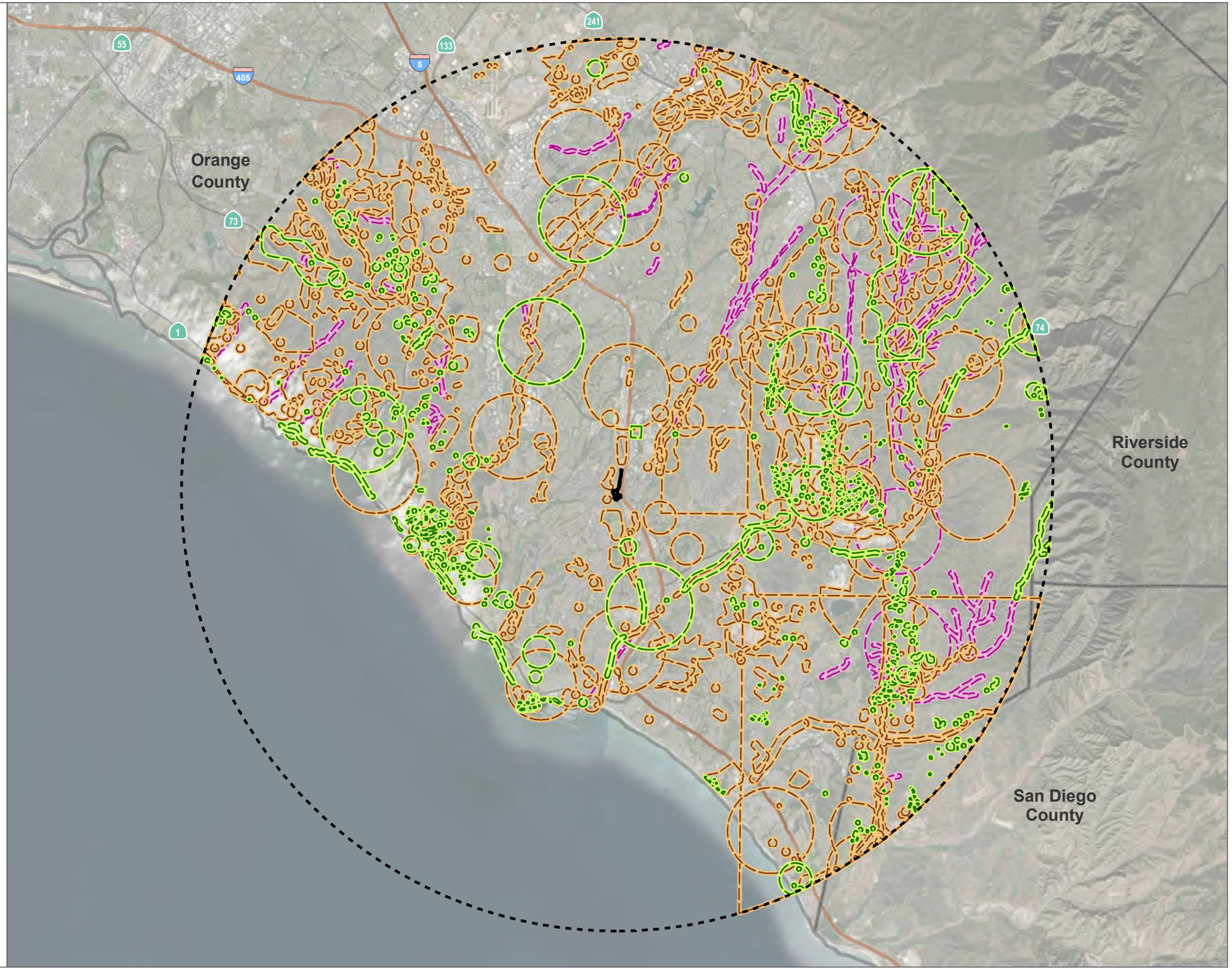
- Allen's pentachaeta, (*Pentachaeta aurea ssp. allenii*)
- Blochman's dudleya, (*Dudleya blochmaniae ssp. blochmaniae*)
- California satintail, (*Imperata brevifolia*)
- Coulter's saltbush, (*Atriplex coulteri*)
- Davidson's saltscale, (*Atriplex serenana var. davidsonii*)
- Laguna Beach dudleya, (*Dudleya stolonifera*)
- Nuttall's scrub oak, (*Quercus dumosa*)
- Orcutt's pincushion, (*Chaenactis glabriuscula var. orcuttiana*)
- Palmer's grapplinghook, (*Harpagonella palmeri*)
- Parish's brittlescale, (*Atriplex parishii*)
- San Miguel savory, (*Clinopodium chandleri*)
- Santa Catalina Island desert-thorn, (*Lycium brevipes var. hassei*)
- aphanisma, (*Aphanisma blitoides*)
- big-leaved crownbeard, (*Verbesina dissita*)
- chaparral nolina, (*Nolina cismontana*)
- chaparral ragwort, (*Senecio aphanactis*)
- cliff spurge, (*Euphorbia misera*)
- decumbent goldenbush, (*Isocoma menziesii var. decumbens*)
- estuary seablite, (*Suaeda esteroa*)
- intermediate mariposa-lily, (*Calochortus weedii var. intermedius*)
- intermediate monardella, (*Monardella hypoleuca ssp. intermedia*)
- many-stemmed dudleya, (*Dudleya multicaulis*)
- mesa horkelia, (*Horkelia cuneata var. puberula*)
- mud nama, (*Nama stenocarpa*)
- prostrate vernal pool navarretia, (*Navarretia prostrata*)
- salt spring checkerbloom, (*Sidalcea neomexicana*)
- south coast saltscale, (*Atriplex pacifica*)
- southern tarplant, (*Centromadia parryi ssp. australis*)
- sticky dudleya, (*Dudleya viscida*)
- summer holly, (*Comarostaphylis diversifolia ssp. diversifolia*)
- thread-leaved brodiaea, (*Brodiaea filifolia*)
- white rabbit-tobacco, (*Pseudognaphalium leucocephalum*)

Wildlife Occurrences

- American badger, (*Taxidea taxus*)
- American bumble bee, (*Bombus pensylvanicus*)
- Belding's savannah sparrow, (*Passerculus sandwichensis beldingi*)
- California glossy snake, (*Arizona elegans occidentalis*)
- California horned lark, (*Eremophila alpestris actia*)
- Coast Range newt, (*Taricha torosa*)
- Cooper's hawk, (*Accipiter cooperii*)
- Crotch bumble bee, (*Bombus crotchii*)
- Dulzura pocket mouse, (*Chaetodipus californicus femoralis*)
- Mexican long-tongued bat, (*Choeronycteris mexicana*)
- Pacific pocket mouse, (*Perognathus longimembris pacificus*)
- Riverside fairy shrimp, (*Streptocephalus woottoni*)
- San Diego desert woodrat, (*Neotoma lepida intermedia*)
- San Diego fairy shrimp, (*Branchinecta sandiegonensis*)
- Southern California legless lizard, (*Anniella stebbinsi*)
- Yuma myotis, (*Myotis yumanensis*)
- arroyo chub, (*Gila orcuttii*)
- arroyo toad, (*Anaxyrus californicus*)
- burrowing owl, (*Athene cunicularia*)
- coast horned lizard, (*Phrynosoma blainvillii*)
- coastal California gnatcatcher, (*Polioptila californica californica*)
- coastal cactus wren, (*Campylorhynchus brunneicapillus sandiegensis*)
- coastal whiptail, (*Aspidoscelis tigris stejnegeri*)
- ferruginous hawk, (*Buteo regalis*)
- golden eagle, (*Aquila chrysaetos*)
- grasshopper sparrow, (*Ammodramus savannarum*)
- least Bell's vireo, (*Vireo bellii pusillus*)
- long-eared owl, (*Asio otus*)
- monarch - California overwintering population, (*Danaus plexippus plexippus pop. 1*)
- northern harrier, (*Circus hudsonius*)
- orange-throated whiptail, (*Aspidoscelis hyperythra*)
- pallid bat, (*Antrozous pallidus*)
- red-diamond rattlesnake, (*Crotalus ruber*)
- southern California rufous-crowned sparrow, (*Aimophila ruficeps canescens*)
- southwestern willow flycatcher, (*Empidonax traillii extimus*)
- steelhead - southern California DPS, (*Oncorhynchus mykiss irideus pop. 10*)
- tidewater goby, (*Eucyclogobius newberryi*)
- tricolored blackbird, (*Agelaius tricolor*)
- two-striped gartersnake, (*Thamnophis hammondii*)
- western mastiff bat, (*Eumops perotis californicus*)
- western pond turtle, (*Emys marmorata*)
- western red bat, (*Lasiurus frantzii*)
- western spadefoot, (*Spea hammondii*)
- white-tailed kite, (*Elanus leucurus*)
- yellow warbler, (*Setophaga petechia*)
- yellow-breasted chat, (*Icteria virens*)

Community Occurrences

- Southern Coast Live Oak Riparian Forest, (*Southern Coast Live Oak Riparian Forest*)
- Southern Cottonwood Willow Riparian Forest, (*Southern Cottonwood Willow Riparian Forest*)
- Southern Mixed Riparian Forest, (*Southern Mixed Riparian Forest*)
- Southern Sycamore Alder Riparian Woodland, (*Southern Sycamore Alder Riparian Woodland*)
- Valley Needlegrass Grassland, (*Valley Needlegrass Grassland*)



SOURCE: Esri World Imagery 2019; CDFW 2023

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FIGURE 4.2-6

Biological Resources

Compass Energy Storage Project

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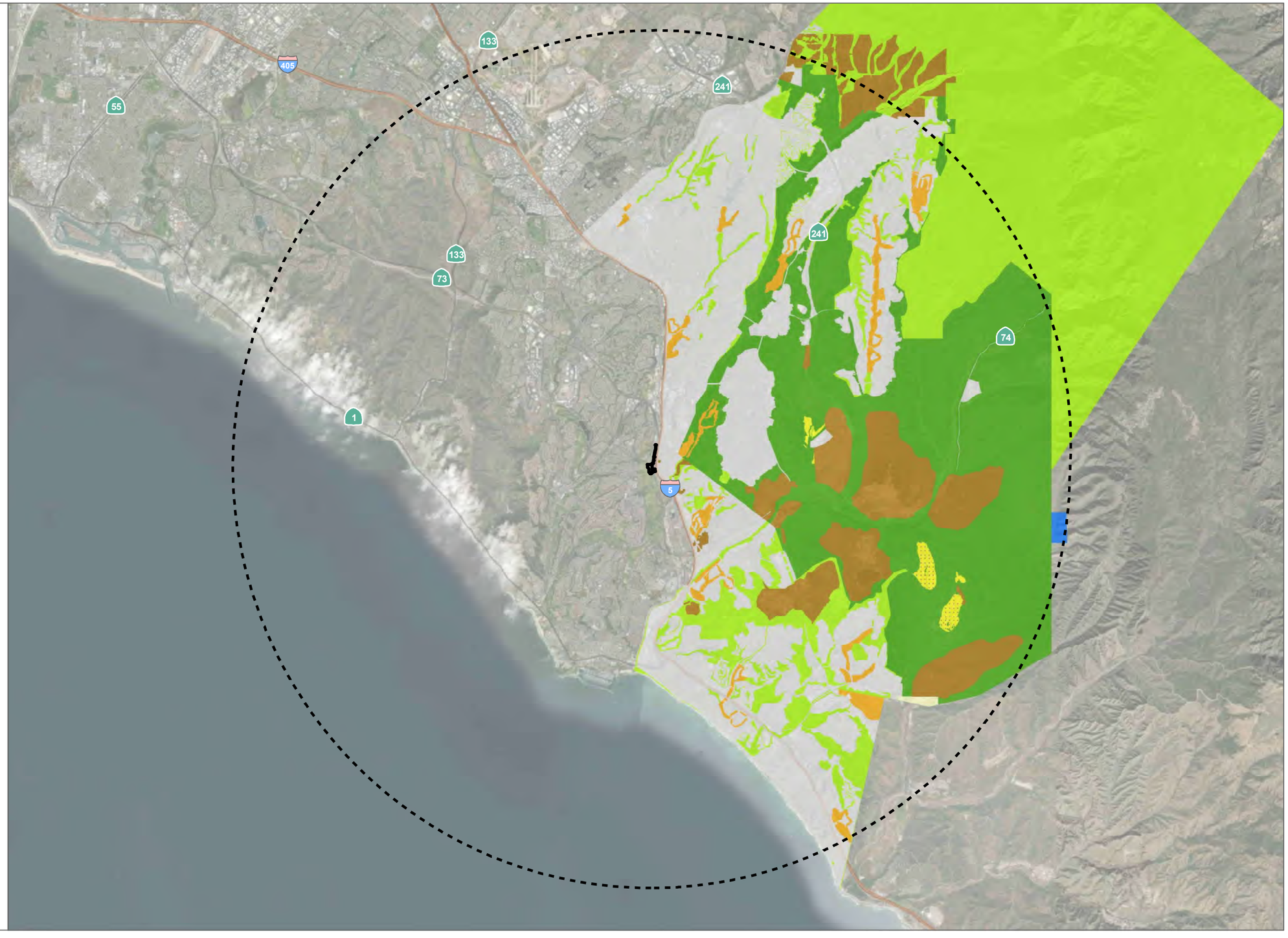
Project Site
Study Area (10-Mile Buffer)

Southern Orange Subregion HCP Boundary

- Developed
- Existing Orchards
- Existing Use
- Golf Course
- Non-reserve Federal Land
- Potential Development
- Potential Orchards
- Habitat Reserve
- Supplemental Open Space



SOURCE: Esri World Imagery; Orange County 2019

DUDEK

0 1.5 3 Miles

FIGURE 4.2-7

Southern Subregion OC HCP

Compass Energy Storage Project

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Survey Area (100-Foot Buffer)
Project Site
Transmission Line

Vegetation Communities and Land Covers

- Bascal, Mulefat thickets
- Popfre-Sallas, Populus fremontii - Salix lasiolepis Association
- UM, Upland Mustards
- DH, Disturbed Habitat
- AGR, General Agriculture
- Non-Vegetated Channel
- ORN, Ornamental
- DEV, Urban/Developed

SOURCE: Dudek 2021; Esri World Imagery 2019

DUDEK

0 150 300 Feet

FIGURE 4.2-8

Vegetation Communities/Land Cover Types

Compass Energy Storage Project

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Attachment 7

DR ES-2. Additional Visual Simulation

Existing View of Project Site, looking South

Proposed View of Project Site, looking South

Attachment 8

DR ES-3. Updated Appendix 1B
Mailing Addresses (Confidential)

Attachment 9

DR HAZ-7. Draft Spill Prevention and Countermeasure Control Plan

DRAFT

Spill Prevention Control and Countermeasure Plan (SPCC)

Compass Battery Energy Storage Project

JUNE 2024

Prepared for:

COMPASS ENERGY STORAGE LLC

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

TABLES

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AHJ	Authority having jurisdiction.
APSA	Aboveground Petroleum Storage Act
CERS	California Environmental Reporting System, which is a State of California electronic database used to submit site information regarding environmental plans.
CWA	Clean Water Act
CUPA	Certified Unified Program Agency, the agency having local oversight for SPCC Plans in California
FCR	Federal Code of Regulations. SPCC Plans are covered under FCR Title 40, Part 112
HMBP	Hazardous Materials Business Plan
SPCC	Spill Prevention Control and Countermeasure Plan
UPA	Unified Plan Agency

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1 Introduction

Compass Energy Storage, LLC (Applicant) proposes to construct and operate the Compass Battery Energy Storage Project (Project) in the City of San Juan Capistrano. The primary components of the Project include lithium-iron phosphate (LFP) batteries, inverters, medium-voltage transformers, a switchyard, a collector substation, and other associated equipment to interconnect into the existing San Diego Gas and Electric (SDG&E) Trabuco to Capistrano 138 kilovolt transmission line (Point of Interconnection).

This Spill Prevention Control and Countermeasure Plan (SPCC, "Plan") has been written as part of the project development documents to describe anticipated oil storage location and type at the Project site and the procedures for inspection, response and employee training required if an SPCC plan is deemed applicable at the site. SPCC plans are "living documents" in that the documents will change based on changing activities and personnel at the project site. This originally submitted documentation will need to be reviewed and any changes will need to be updated just prior to construction, during the operating life of the Project, as regulations change, and during decommissioning.

1.1 SPCC Purpose

Spill Prevention Control and Countermeasure (SPCC) plans ("Plan") are federal plans that gain their authority under Section 311(j)(1)(C) of the Clean Water Act as amended by the Oil Pollution Act of 1990. The purpose of a SPCC plan is to prevent and prepare a response in the case of an oil discharge to Waters of the United States from non-transportation related facilities. Federal SPCC requirements are outlined in Code of Federal Regulations Title 40, Part 112. Federal SPCC regulations cover all oils including those from petroleum-based sources and non-petroleum-based sources. SPCC facilities must prepare and implement an SPCC plan within 6 months of beginning operations.

1.2 Federal versus California Applicability

SPCC applicability in the United States is complex and varies from state to state.

1.2.1 Federal Applicability

In general, for renewable energy projects, a federal SPCC plan is required if both of the following are true.

- Could the facility reasonably be expected to discharge oil in quantities that may be harmful into navigable waters or adjoining shorelines?
- Is the total aggregate capacity of above ground oil storage containers greater than 1,320 gallons of oil of aggregate aboveground storage capacity in tanks and oil-filled equipment of 55 U.S. gallons or more?

1.2.2 State of California Applicability

The evaluation of applicability of a State of California SPCC Plan is a similar but not entirely the same as under the Federal Rules. SPCC plans in the State of California are evaluated based on the California Aboveground Petroleum Storage Tank Program (APSA) California Health and Safety Code Division 20. Miscellaneous Health

and Safety Provisions Chapter 6.67. Aboveground Storage of Petroleum. Unlike the Federal SPCC regulations which only apply near navigable waters, the APSA regulates projects no matter where they are in the State. California SPCC plans covered under the APSA, however, are only concerned with petroleum oil storage whereas Federal SPCC regulations cover oils in general.

The California APSA defines "petroleum" to be crude oil, or a fraction thereof, that is liquid at 60 degrees Fahrenheit and 14.7 pounds per square inch absolute pressure (CHSC, 20, Chapter 6.67 Section 25270.0). In other words, petroleum oils that are typically liquid at ambient temperatures and pressures.

- Examples of petroleum under APSA: Mineral oil and insulating oils, gasoline, diesel, biofuel blends, synthetic oil, motor oil, and used oil.
- Examples of petroleum that do NOT meet the definition under California APSA: Liquefied petroleum gas or propane, liquefied natural gas, hot mix asphalt, and asphalt cement, 100% biodiesel (without petroleum), animal fat and vegetable oil.

1.2.2.1 Conditional Exemptions Under APSA

Though the Project will most certainly store more than 1,320 gallons of petroleum onsite during construction, operations and decommissioning, temporary fuel tanks and oil filled equipment meeting certain qualifications are exempt from the SPCC plan under APSA. These exemptions cover most situations found during construction of a BESS in California.

Under APSA, a facility on a construction site in California is exempt under current APSA regulation 25270.4.5 (b) from preparing a SPCC plan if:

- No storage tank at the location exceeds 20,000 and
- The cumulative storage capacity of the tank facility does not exceed 100,000 gallons.

Most electrical fueled equipment will be exempt from APSA due to the following APSA language under 25270.2 (a)(4):

- (4) Oil-filled electrical equipment, including, but not limited to, transformers, circuit breakers, or capacitors, if the oil-filled electrical equipment meets either of the following conditions:
  - (A) The equipment contains less than 10,000 gallons of dielectric fluid.
  - (B) The equipment contains 10,000 gallons or more of dielectric fluid with PCB levels less than 50 parts per million, appropriate containment or diversionary structures or equipment are employed to prevent discharged oil from reaching a navigable water course, and the electrical equipment is visually inspected in accordance with the usual routine maintenance procedures of the owner or operator.

Even if the project is exempt from an SPCC, the Project is still subject local environmental inspections under California's Unified Program, discussed further in the section below.

1.2.2.2 California's Regulating Agency

The California Unified Program was established by the passing of California Senate Bill 1082 in 1994 to consolidate of six related environmental programs into one oversight authority for the purposes of streamlining local oversight, administrative requirements, permits and emergency response. The Unified Program requires the California Environmental Protection Agency (CalEPA) to certify qualified local governments known as Certified Unified Program Agencies (CUPAs) as able to implement the programs, including SPCCs. Therefore, at a local level, it is the CUPA that oversees California SPCC plan applicability, review, inspections, and implementation. A CUPA can be a county, a city or a joint powers authority.

The six programs that have been consolidated under the Unified Program in California include:

- Aboveground Petroleum Storage Tank Program (APSA)
- Hazardous Materials Business Plan Program (HMBP)
- California Accidental Release Prevention Program
- Hazardous Material Inventory Statement and Hazardous Materials Management Plan
- Hazardous Waste Generator-Tiered Permitting
- Underground Storage Tank Program

1.3 Is a SPCC Plan Applicable to this Project?

As of the date of this report the Project does not meet the requirements of a plan that is required to comply with Spill Prevention Control and Countermeasures (SPCC) Plan under Title 40 Code of Federal Regulations part 112, for the following reasons:

Federal Applicability: Applicable,

- The Project is anticipated to have an aggregate oil filled equipment volume in the form of transformers at the site which are over the 1,320-gallon threshold for an SPCC Plan and the project is anticipated to qualify for a Federal SPCC Plan based on its proximity to United States navigable waters (i.e., Oso Creek).

State of California: Currently Not Applicable, Applicability May Change

- Construction and Decommissioning: The Project is conditionally exempt from California APSA during construction and decommissioning. Under APSA, a facility on a construction site in California is exempt under current APSA regulation 25270.4.5 (b) from preparing a SPCC plan if:
  - No storage tank at the location exceeds 20,000 and
  - The cumulative storage capacity of the tank facility does not exceed 100,000 gallons.

The Project is still subject to APSA fees and is still subject to CUPA inspections.

- The Project is conditionally exempt from APSA SPCC Plan during operations: Most electrical fueled equipment will be exempt from APSA due to the following APSA language under 25270.2 (a)(4):

- (4) Oil-filled electrical equipment, including, but not limited to, transformers, circuit breakers, or capacitors, if the oil-filled electrical equipment meets either of the following conditions:
  - (A) The equipment contains less than 10,000 gallons of dielectric fluid.
  - (B) The equipment contains 10,000 gallons or more of dielectric fluid with PCB levels less than 50 parts per million, appropriate containment or diversionary structures or equipment are employed to prevent discharged oil from reaching a navigable water course, and the electrical equipment is visually inspected in accordance with the usual routine maintenance procedures of the owner or operator.

Review Recommendations:

The Project and this Plan should be reviewed at the end of construction to confirm the Project applicability under 40 CFR part 112. It is recommended that the Project components be reviewed approximately once every five (5) years to confirm applicability.

1.4 SPCC Plan Requirements

SPCC plan requirements detailed in FCR Title 40, Part 112 are applicable to both Federal and State SPCC plans.

SPCC plans must be prepared in writing, with full approval of management at a level of authority who can commit necessary financial and Project resources to fully implement the Plan.

The SPCC Plan should:

- Describe the physical layout of the facility, including a facility diagram which should show the location of each oil filled container, and any oil transfer stations and pipes.
- List the type of oil in each container, and the full storage capacity of each container.
- Spill prevention procedures which cover the routine practices that will occur at the project site, including oil handling, and facility transfers of oil.
- Describe secondary containment around containers or readily available equipment, visual inspection practices and routine maintenance for electrical equipment.
- Describe Countermeasures for discharge discovery, response and cleanup including which of those procedures will be carried out by the facility and which will require an outside contractor.
- Name methods of disposal for recovered materials in accordance with local, state and federal laws.
- Provide a contact list with facility contacts, contractor contacts, federal, state and local agency contacts (if applicable).
- Develop procedures for reporting a discharge including relating site location information and relevant information regarding the total volume and type of oil discharged.
- Outline inspection methods, frequency and record keeping.
- Identify security measures for the project site including fencing, locks, flanges and security lighting (if necessary).

- Elements of training information for, at a minimum, the oil handling personnel at the facility, including a schedule of retraining at least once per year which highlights known discharges and malfunctioning components and any recently developed precautionary measures.
- Be certified, according to the requirements of 40 CFR 112. Self-certification by Project management or a certified Professional Engineer.

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2 Project Description

2.1 Project Location

The Project site consists of developing an approximately 12 acres of a 40.8-acre parcel, Parcel B1 which is a portion of Assessor's Parcel Number 637-082-71, located in the city of San Juan Capistrano, California. The Project site is adjacent to Camino Capistrano with Interstate-5 and Union Pacific Railroad located to the east, Saddleback Church Rancho Capistrano to the north, mostly open space to the south, and Oso Creek to the south and east. The project site was selected given its location in an area of high energy demand near SDG&E facilities. The project site is one of the few remaining undeveloped lands in Orange County that has minimal topography and associated grading/civil improvements and is located immediately adjacent to existing roadways that provide readily available access for construction and operations.

2.2 Project Components

The Project will include the development of an approximately 250-megawatt battery energy storage system (BESS) and associated infrastructure. A BESS is comprised of stationary equipment that receives electrical energy and then utilizes batteries to store that energy to then supply electrical energy at a future time. Power released or captured by the proposed Project will be transferred to and from the SDG&E Trabuco to Capistrano 138kV transmission line via a loop-in generation transmission line that will interconnect to an SDG&E switchyard that will be constructed within the Project site. The Project will consist of LFP or similar technology batteries installed in racks and contained inside non-habitable enclosures; inverters; MV transformers; an SDG&E switchyard; a Project substation; and other associated equipment. The Project will include the following components:

- Battery Energy Storage System
- Power Inverters and Transformers
- Project Substation
- SDG&E Switchyard
- Telecommunication Facilities
- Perimeter Visual Screening and Security Walls
- Stormwater Detention Facilities
- Landscaping
- Access Road Improvements
- Site Access and Security
- Loop-In Transmission Line
- Fire Protection System
- Operations and Maintenance Area

2.3 Project Oil Storage Containers

The project is anticipated to have oil storage containers on the project in the form of: oil filled equipment in the form of transformers at the main BESS site and at the Project Substation.

Table 1. Oil Storage Containers Anticipated at the Project

Location	Type of Container	Volume and Oil Type	Stage
BESS	Oil Filled Equipment – PCS Medium Voltage Transformers	Approximately 100 EA at >500 gallons of dielectric fluid (mineral oil or vegetable oil);	Operations
Substation	Oil Filled Equipment – High-Voltage Transformer	Approximately 3 EA (2 active and a live spare) at >8,500 gallons of dielectric fluid (mineral oil)	Operations

2.4 Project Schedule

Construction Schedule:

The physical construction/site activities of the proposed Project is expected to last up to 18 months, including 3 months of testing and commissioning. The proposed Project will be constructed by several specialized construction contractors. Construction will primarily occur during daylight hours, Monday through Saturday between 7:00 a.m. and 6:00 p.m., as required to meet the construction schedule. Any construction work performed outside the normal work schedule will be coordinated with the appropriate agencies and will conform to City regulations. Construction activities would include the following:

- **Site preparation.** Prior to construction, environmental clearance surveys would be performed. Erosion and sediment control measures will be installed prior to the start of major earthworks activities. Rough grading and grubbing/vegetation removal would be performed. Stormwater facilities would be created for hydrologic control. Stabilized construction entrances and exits would be installed.
- **Site Grading and Civil Work.** The Project site grading is anticipated to include approximately 15,480 cubic yards (cy) of cut and 74,070 cy of fill for a net of 58,590 cy. The BESS facility site access roads and driveways would be graded, compacted, and surfaced with gravel or aggregate. The project perimeter fence and access gates would then be constructed.
- **BESS, Project Substation, and SDG&E Switchyard Foundations and Equipment Installation.** Major equipment would be delivered and offloaded directly into place with a crane or heavy equipment when possible or stored at one of the laydown areas near its permanent location and installed at a later date. Electrical wiring would be installed underground, at-grade, and above ground, depending on the application and location.
- **Loop-In Transmission Foundation and Tower Erection.** Cast-in-place concrete foundations would be installed.
- **Loop-In Transmission Stringing and Pulling.** Conductors would be strung between transmission structures and cables would be pulled through one segment of the transmission line at a time.
- **Testing and Commissioning.** After installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel.

Operation Schedule:

Upon completion of construction, construction vehicles and equipment will be removed from the Project site. The Project is anticipated to be operated by a team of operations and maintenance specialists who will be trained in protocols of spill management and control until the Project reaches the end of its useful life.

Decomissioning Schedule:

At the end of the Project's operational term, it may be determined that the facility will be decommissioned and deconstructed. The Project would utilize best management practices during decommissioning similar to that during construction to minimize the potential for oil spills and leaks to occur during project component disposal. Oils will be disposed of as required by local, state and federal regulations in place at the time of decommissioning.

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3 Facility and Agency Contacts

Table 2. Facility Information

	Project
Facility Name	Compass Battery Energy Storage
Facility Address	TBD
Facility Phone Number	TBD
Facility Mailing Address	TBD
Owner or Operator Name	Compass Energy Storage, LLC

Table 3. Emergency Response Phone Numbers

Resource	Phone Number	Address
Emergency Coordinator	TBD	TBD
Ambulance, Fire, Police and CHP	911	Call or Text
Orange County Fire Authority	Office of Emergency Services (714) 573-6000	1 Fire Authority Rd., Irvine, CA 92602
Nearest Fire Station	Orange County Fire Authority Station #9 (714) 573-6000	9 Shops Blvd., Mission Viejo, CA 92691
Nearest Police Station	Laguna Niguel Police Services (949) 770-6011	30111 Crown Valley Pkwy., Laguna Niguel, CA 92677
Nearest Medical Facility	Providence Mission Hospital Mission Viejo Emergency Department (949) 365-2202	27700 Medical Center Rd., Mission Viejo, CA 92691
Local Unified Program Agency (CUPA)	Orange County Environmental Health Division (714) 433-6000	1241 E. Dyer Rd., Ste. 120, Santa Ana, CA 92705
California State Warning Center / CAL OES	800.852.7550	
National Response Center (NRC)	800.424.8802	
Poison Control Center	800.222.1222	

3.1 Agency Notification Phone Numbers

Table 4. Agency Notification Phone Numbers

Agency	Phone Number / Email
California Department of Toxic Substance Control (DTSC)	916.255.3545
San Diego Regional Water Quality Control Board	(619) 516-1990
US Environmental Protection Agency (EPA)	800.424.9346 – EPA Information Center

Table 4. Agency Notification Phone Numbers

Agency	Phone Number / Email
California Department of Fish and Wildlife (CDFW)	916.358.2900
US Coast Guard (USCG)	202.267.2180
CAL OSHA	916.263.2800
CAL Fire Office of the State Fire Marshal (OSFM)	916.323.7390

3.2 Information and Documentation Submittals:

3.2.1 Federal Documentation

Submission of the SPCC is not required to the Federal EPA, the Project Owner or Operator should maintain an updated copy of the SPCC Plan onsite and make the Plan available to EPA inspectors at their request.

- This Plan is anticipated require a certification at the end of construction (including site visit and signature of a Professional Engineer) for storage of oil in quantities over the threshold of 10,000 gallons of aggregate storage capacity.
- This Plan will need to be reviewed at least once annually and be re-certified by a Professional Engineer at least once every five (5) years.

3.3 California CUPA Documentation

Documentation is submitted to the local CUPA by means of a statewide run database called the California Environmental Reporting System or CERS. To keep accuracy of the CERS database relevant to emergency response, project information is generally submitted just before, or when a project qualifies under one of the programs regulated under one of the Unified Programs.

- CERS Project information should be updated as frequently as needed to keep information current or at a minimum of once per year. If no changes are required to the plan or contacts, the Project may certify that there has been no change on the CERS database.
- CERS Project information is required to be reviewed and certified (by site team) at least once annually in the CERS database even if there have been no changes from the previous year.

4 Spill Prevention Measures

4.1 Containment and Diversionary Structures

Rainwater Drainage. If rainwater collects within the secondary containment areas and no sheen is observed, the valve or plug will be opened, and the water will be allowed to drain to the facility surface. If an oily sheen is observed on the water in the secondary containment, the water will be vacuumed from the containment and pumped into a drum that will be stored on site pending proper off-site disposal.

Facility Drainage. Due to its location in an arid, desert environment, the site is dry for the majority of the year with surface water flow occurring only as a result of infrequent rainstorms. Stormwater on the site typically occurs in a network of shallow channels. During large storm events, stormwater runoff will break out of these channels and flow across the site as sheet flow. If sediment ponds are constructed for large storms, ponds should be checked after for any sheen. If any sheen is observed on the water, it will be pumped into a drum that will be stored on site pending proper off-site disposal.

4.2 Vehicles and Transportation

Tank Loading and Unloading. The following tanker truck loading and unloading procedures will be followed when bulk petroleum product is delivered to the site:

- Wheel chocks will be applied to delivery vehicles to prevent movement during the delivery process.
- Delivery vehicles will be inspected prior to filling and departing for discharges. If necessary, vehicle outlets will be tightened, adjusted, or replaced to prevent liquid discharge while in transit.
- A spill kit containing booms, socks, and oil absorbent material will be on hand to contain any oil spills that may occur during fuel transfers.
- Appropriately trained personnel will verify that the designated acceptance tanks have enough volume to contain the quantity to be delivered.
- Appropriately trained site personnel will oversee all aspects of loading and unloading operations, including monitoring of level-indicating gauges on each petroleum container during the delivery process, verifying shipping papers to confirm the oil type being delivered, ensuring proper connection of transfer hoses or connections, and noting oil level in receiving fuel tank prior to and following loading and unloading.
- Following transfer of petroleum product, appropriately trained site personnel will note level of receiving container and verify that this amount is consistent with container level prior to transfer and the quantity of oil delivered. If a release is believed to have occurred, the spill response will be followed.

4.3 Oil Filled Equipment Spill Containment and Control

Spill Protection Procedures for ***Oil Filled Equipment without secondary containment***.

Under 40 CFR 112.7(k), the owner or operator of a facility with oil-filled operational equipment can implement an alternate method of spill response for qualified oil-filled operational equipment in lieu of the general secondary

containment. For oil filled equipment on this Project where secondary containment is impractical or would cause a safety hazard, the following measures shall be put into place:

- Regular inspections, at a minimum of every other week during construction and monthly during operations.
  - Inspections should note any sign of oil leaks from equipment, or signs of equipment malfunction which could lead to a leek or spill.
  - Inspections should note if residual oil is observed on or around the ground near the inverter/transformer.
  - Inspectors should report any of the above to the Project environmental coordinator for further review.
- Spill Kits, appropriate in size and type for use with oil spills, should be staged onsite where easily accessible for inspectors and other site workers to take action in case a spill or leak is observed.
- Inspectors and workers who will be regularly working with the transformers should be trained to use the type of spill kit provided.

5 Training

5.1 Employee Training and Discharge Prevention

Personnel involved in oil-handling procedures will be trained as part of their daily responsibilities in the proper operation and maintenance of equipment to prevent discharges. Formal employee training will be conducted annually. During annual training, all oil-handling personnel are instructed to understand the following:

- Previous discharges.
- Previous equipment failures/malfunctions.
- New or redeveloped precautionary measures.
- The operation and maintenance of equipment to prevent discharges.
- Discharge procedure protocols.
- The applicable pollution control laws and regulations from local, state, and federal levels.
- General facility operations.
- The contents of the facility construction spill prevention, control, and countermeasure plan.
- How to respond to a spill.
- The name and role of the designated discharge prevention person (24-hour emergency contact).
- How to navigate material safety data sheets and their location (safety coordinator's office and mechanic's connex)

Additional training may be provided, as needed, by outside contractors for new petroleum-related equipment.

5.2 Documentation and Record Keeping

Documentation of spill prevention training will be completed for all applicable employees. This information will remain on site with the Plan; copies may be kept in individual employee files.

5.3 SPCC Reporting Requirements

In the case of a single discharge of more than 1,000 US gallons of oil to navigable waters or adjoining shorelines or two discharges to navigable waters or adjoining shorelines each more than 42 Gallons of oil within any 12-month period, the following information should be submitted to the EPA Regional Administrator within 60 days following the event(s):

- Name of the facility.
- Name and contact for SPCC related matters.
- Location of the facility.
- Maximum storage or handling capacity at the facility and normal daily throughput
- Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements.

- An adequate description of the facility, including maps, flow diagrams, and topographical maps as necessary.
- The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred, and
- Additional preventative measures you have taken or contemplated to minimize the possibility of reoccurrence.
- Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

6 Spill Response

6.1 Large Spill Procedures

An oil spill at the site may be considered large based on the assessment of the oil-handling personnel on site who are trained in construction spill prevention, control, and countermeasure management. Any oil spill that exceeds 42 gallons (one barrel) will be treated as a large spill. For any large spills, the following procedures shall be followed:

- Site personnel shall evacuate facility staff from the immediate area.
- Site personnel shall report immediately to the first available facility emergency contact.
- If possible, site personnel shall stay upwind.
- Site personnel shall don appropriate personal protective equipment and determine the source of the leak. Where appropriate, close valves and press emergency fuel shutoff.
- Site personnel shall use spill containment materials to keep spill from spreading and discharging off site.
- The emergency contact will contact the on-call spill response contractor for cleanup and disposal of fuel and sorbent materials.
- The emergency contact is responsible for reporting to the following agencies, as necessary. Reporting depends upon quantity spilled, nature of the spill, etc.
- Refer to the emergency contacts listed in Section 3 of this Plan.

Follow-up documentation, including the submission of an oil/hazardous substance discharge report, if necessary, will be the responsibility of the designated discharge prevention person. Additional documentation will include the description of corrective actions taken, root cause analysis of the spill event, and characterization of the resulting environmental or health and safety impacts.

6.2 Small Spill Procedures

For small spills, site personnel are instructed to follow the procedures detailed below:

- Use appropriate personal protective equipment and determine the source of the leak. Where appropriate, close valves, and press emergency fuel shut-off.
- Use spill containment materials to absorb spill.
- Allow spill material to completely absorb the spill. Place spent sorbent material in appropriate hazardous waste container.

The designated discharge prevention person is responsible for determining whether the spill is reportable.

6.3 Standard Procedures for All Spills

The standard procedures for all spills are as follows:

- All spills shall be immediately cleaned up upon discovery.
- The spill area shall be kept well ventilated, and personnel shall wear the appropriate protective clothing to prevent injury when cleaning up a spill.
- Spills of hazardous materials shall be reported to the appropriate local, state, and federal authorities and/or regulatory agencies as required by law.
- All vehicles leaking oil or fluids shall be scheduled for maintenance, and drip plans shall be placed under the leak when parked prior to the maintenance event.
- All spill and cleanup material will be removed from site as soon as can be arranged and taken to a legal disposal facility.

The designated discharge prevention person is responsible for determining whether the spill is reportable

7 References

California Code of Regulations, 2018, California Legislative Law, California Health and Safety Code, Division 20, Chapter 6.11, Sections 25404-25404.9, Effective July 1, 2018. https://calepa.ca.gov/cupa/lawsregs/ accessed June 3, 2024.

California Code of Regulations, 2018, Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100-15620., Effective July 1, 2018, https://calepa.ca.gov/cupa/lawsregs/ accessed June 3, 2024.

California Code of Regulations, 2018, Title 27, Division 3, Subdivision 1- Data Dictionary, Effective July 1, 2018, https://calepa.ca.gov/cupa/lawsregs/ accessed June 3, 2024.

California Legislative Law, 2013, California Health and Safety Code, Division 20, Chapter 6.67, Sections 25270-25270.13, Aboveground Petroleum Storage Tank Program, Effective 1989, https://calepa.ca.gov/cupa/lawsregs/ accessed June 3, 2024.

United States Code of Federal Regulations, 2013, Title 40-Protection of Environment, Chapter I – Environmental Protection Agency, Subchapter D- Water Programs, Part 112 Oil Pollution Prevention, Effective December 11, 1973.

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Attachment 10

DR LAND-3. Faux Ivy Specification

superiorturfnivy.com

(619) 717-1342

3 year warranty

SUPERIOR TURF ‘N IVY

COLOR/FINISH: DARK GREEN & LIGHT GREEN

LEAF SPECS

Width	1-1/2”--2-1/2”
Length	2”- 3-1/5”
Type	Assorted

MATERIAL SPECIFICATIONS

Low density polyethelene (LDPE)

Density	.957
Minimum Temp.	-76° F
Maximum Temp.	250° F
Shade Percentage	85%
Backing Thickness	1/8"

PANEL SIZE/WEIGHT

Height (Inches)	2”
Length (Inches)	23-3/5”
Width (Inches)	23-3/5”
Weight (Lbs)	2.9 lbs/panel

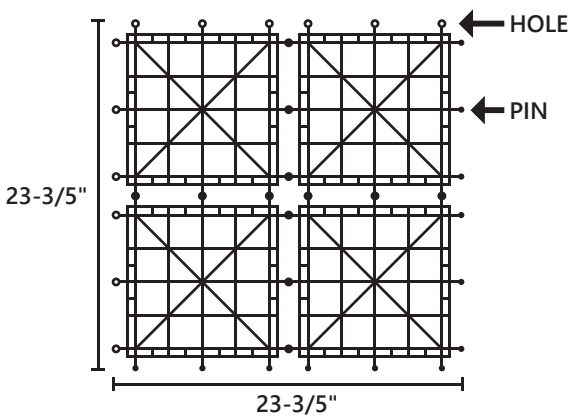
EASY CUT TO FIT

UV PROTECTED

ECO-FRIENDLY

PROFILE

BACKING GRID



Ivy Installation Instructions

- Determine how much surface area needed to be covered.
- Order 3-5% extra ivy as you will have scrap during the installation process.
- The ivy comes in 23-3/5" x 23-3/5" squares.
- Ivy is dye lot sensitive, if you reorder ivy for an existing area make sure to ask for the same dye lot as the original order.
- Use scissors or a carpet knife to trim the ivy to fit the surface area as needed.

Ivy Benefits and Features

- Connect and cut for a perfect fit
- 3 year manufacturer's warranty
- Low maintenance
- Graffiti deterrent
- UV stable
- Cleans easy

Attachment 11

DR LAND-6. Comprehensive LORS Table

Response to DR LAND-6

Topic	Agency Having Jurisdiction	Federal/ State/Local	Applicable Law, Ordinance, Regulation, or Standard	Law, Ordinance, Regulation, or Standard Overview	Project Consistency
Air Quality	Environmental Protection Agency (EPA)	Federal	Federal Clean Air Act	The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting national ambient air quality standards (NAAQS) for major air pollutants; setting hazardous air pollutants (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$, are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the NAAQS within mandated time frames.	Please refer to Section 4.1.6, Air Quality Analyses. The proposed project would not exceed the CAAQS for NAAQS after accounting for background concentrations for all criteria air pollutants except for PM_{10} CAAQS and $PM_{2.5}$ NAAQS. The exceedances for PM_{10} and $PM_{2.5}$ are due to the high level of background concentrations that already exceed the CAAQS and NAAQS. The project would not exceed the SIL for both the 24-hour and annual PM_{10} concentrations and $PM_{2.5}$ 24-hour concentration. Additionally, these emissions would be temporary and short-term construction-related emissions.
Air Quality	California Air Resources Board (CARB)	State	California Clean Air Act	In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products. CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. As stated previously, an AAQS defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a basin can attain the corresponding CAAQS. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded.	
Air Quality	South Coast Air Quality Management District (SCAQMD)	Local	Air Quality Management Plan	While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the South Coast Air Basin (SCAB), where the project is located. SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. SCAQMD's Air Quality Management Plan (AQMP) includes control measures and strategies to be implemented to attain the CAAQS and NAAQS in the SCAB. SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.	Please refer to Section 4.1.3, Emissions Evaluation. The proposed project would be required to incorporate reduction measures as required by SCAQMD Rule 403 and Rule 1113.

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Air Quality	SCAQMD	Local	SCAQMD District Rules	Emissions that would result from project construction may be subject to SCAQMD rules and regulations, which may include the following. **Rule 401 – Visible Emissions.** This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than 3 minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour or such opacity which could obscure an observer's view to a degree equal or greater than does smoke. **Rule 402 –** Nuisance. This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property. **Rule 403 –** Fugitive Dust. This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. **Rule 431.2 –** Sulfur Content of Liquid Fuels. The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of SOx and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications. **Rule 1113 –** Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.	
Biological Resources	U.S. Fish and Wildlife Service	Federal	Federal Endangered Species Act (16 United States Code [USC] 153 et seq.)	The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.	A total of 13 federally endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles. Nine were determined not to be expected on the Survey Area, while one, the least Bell's vireo, has a moderate potential to nest and forage within Oso Creek along the eastern portion of the Survey Area. Protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative for this species. As such, least Bell's vireo is considered absent from the Survey Area, and no federally endangered species are anticipated to occur on the Survey Area.

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Biological Resources	USFWS	Federal	Migratory Bird Treaty Act (16 USC 703 to 711)	The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.	The Applicant will protect any active migratory bird nests identified during preconstruction surveys against take. The proposed transmission lines are raptor safe against electrocution and collisions.
Biological Resources	USFWS	Federal	Bald and Golden Eagle Protection Act (16 USC 668)	The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permits issues by the Secretary of the Interior, from "taking" bald or golden eagles, includes their parts, nests, or eggs. The Act provides criminal penalties for person who "take, possess, sell, purchase, bater, offer to sell, transport, export or import, at any time or ay manner, any bald eagle…[or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, kill, wound, capture, trap, collect, molest or disturb."	The transmission poles installed as part of the proposed project (one new pole and two replacement poles) will be low in profile (100 feet or less) and are not likely to result in significant bird strikes. The proposed transmission lines are raptor safe and would parallel existing railroad infrastructure.
Biological Resources	California Department of Fish and Wildlife	State	California Endangered Species Act	The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA, under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures	A total of 10 state endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles. Of those, eight were determined to not be expected on the Survey Area, and one proposed state endangered species has a low potential to forage within the grassland on the Survey Area (Crotch's bumble bee, *Bombus crotchii*). Further, the state endangered least Bell's vireo has a moderate potential to nest and forage within Oso Creek on the eastern portion of the Survey Area. Protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative for this species. As such, least Bell's vireo is considered absent from the Survey Area. As a result, neither construction nor operation of the proposed project will adversely affect CESA species.
Biological Resources	CDFW	State	Fish and Game Code Sections 3500, 3511, and 3513	Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.	The Applicant will protect any active migratory bird nests identified during preconstruction surveys against take.

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Biological Resources	CDFW	State	Fish and Game Code, Fully Protected Species	Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction	Please refer to Section 4.2.1.7.7 State Fully Protected Species and Section 4.2.1.7.8 State Species of Special Concern of the application.
Biological Resources	CDFW	State	Fish and Game Code Section 5901	Section 5901 of the California Fish and Game Code makes it unlawful to construct or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined in Section 45 as a wild fish, mollusk, crustacean, invertebrate, or amphibian, or part, spawn, or ovum of any of those animals.	No project impacts to Oso Creek or any aquatic habitat are proposed.
Biological Resources	CDFW	State	Fish and Game Code Section 5937	Section 5937 of the California Fish and Game Code requires that the owner of any dam must allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by CDFW to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam to keep in good condition any fish that may be planted or exist below the dam, when, in the judgment of CDFW, it is impracticable or detrimental to the owner to pass the water through a fishway.	No project impacts to Oso Creek or any aquatic habitat are proposed.
Biological Resources	CDFW	State	Fish and Game Code Section 1600–1616	CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of a definable bed and banks and existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources. Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete, certified California Environmental Quality Act (CEQA) document.	The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the state during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have no impact to wetlands and waters of the state.
Biological Resources	CDFW	State	California Native Plant Protection Act	The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. The CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game	No listed special-status plant species were observed during either of the focused botanical surveys conducted in the Survey Area or have high or moderate potential to occur within the Survey Area. No temporary or permanent impacts to special-status plant species will occur from construction and operation of the proposed project as the results of the 2021 and 2023 protocol-level rare

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				Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.	plant surveys on the Survey Area are negative. Therefore, the project would have no direct or indirect impacts to any special-status plant species.
Biological Resources	Regional Water Quality Control Board	State	Porter–Cologne Water Quality Control Act	Pursuant to provisions of the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), the Regional Water Quality Control Boards (RWQCB) regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e])	The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the state during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have no impact to wetlands and waters of the state.
Biological Resources	City of San Juan Capistrano	Local	San Juan Capistrano General Plan	The City of San Juan Capistrano General Plan includes goals and policies designed for the protection of natural resources within the city limits. To preserve the important biological resources within the city for future generations, and to preserve the quality of life in the community that these resources contribute, these important ecological and biological resources need to be protected through implementation of the following goals and policies.	Please refer to Section 4.2.2, Environmental Analysis. The project would implement Pre-Construction Surveys. As described in MM-BIO-1, prior to the onset of work, a qualified biologist shall conduct a pre-construction survey for sensitive biological resources within and near the project site. Should special-status species be found, then measures recommended by the qualified biologist shall be incorporated into the project to reduce the likelihood of species impacts. As detailed in MM-BIO-2, potential impacts exist for avian species during the breeding season occurring between February 1 and August 31 for general nesting birds and January 1 through September 15 for raptors. Work conducted during these months will require a nesting bird survey conducted by a qualified biologist within and near the project footprint within 72 hours of the onset of activities. Should the qualified biologist discover any nesting birds, then appropriate measures, as determined by the qualified biologist, will be implemented to minimize impacts. Additional best management practices and environmental awareness training will be implemented. Please also refer to Section 9.1.2 of Data Request Response #1. The trees removed along the access road will be replaced at locations identified in cooperation with the Saddleback church to ensure the linear buffer remains robust.
Biological Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code	Section 9-3.557 of the City of San Juan Capistrano Municipal Code requires tree preservation of existing trees within the City of San Juan Capistrano while permitting reasonable use and development of properties containing such trees, as well as the reasonable trimming and maintenance of such trees. The city's definition of a protected tree includes any living woody perennial plant having a trunk diameter greater than 6 inches, measured at a point 3 feet above the ground. This ordinance prevents any property owner or his or her agent in any district in the city that will cause any tree on his or her property to be severely trimmed, unless prior approval is given by the Planning Director, upon recommendation of an arborist. This ordinance also provides suggested tree trimming standards to preserve the health, beauty, and longevity of trees. Trimming for such purpose would also make trees safer, more functional, and valuable	
Biological Resources	USFWS/CDFW	Federal/ State	Natural Community Conservation Act, codified at California Fish and Game Code Sections 2800–2840	The Natural Community Conservation Act, codified at California Fish and Game Code Sections 2800–2840, authorizes the preparation of Natural Community Conservation Plans (NCCPs) to protect natural communities and species while allowing a reasonable amount of economic development. At the same time, FESA Section 10 provides for the preparation of Habitat Conservation Plans (HCPs) to permit the taking of federally listed threatened and endangered species. Under both state and federal statutes, joint planning	The Project site occurs within the NCCP/HCP area, specifically within the Coastal Subarea Plan area, and does not occur within any mapped habitat reserve areas. Project-related impacts to covered species and/or covered sensitive habitats would require compliance with the mitigation plan for participating landowners; however,

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				processes result in the preparation and adoption of an NCCP/HCP. The proposed Project's Survey Area is within the NCCP/HCP area for the County of Orange Central and Coastal Subregion, specifically within the Central Subregion of the NCCP/HCP area (County of Orange 1996), and is therefore analyzed in this report in the context of the NCCP/HCP with regards to the special-status species identified in the NCCP/HCP and the mitigation provisions of the NCCP/HCP. The NCCP/HCP was reviewed and approved by USFWS and the California Department of Fish and Game (now CDFW) in 1996 to address protection and management of coastal sage scrub habitat, coastal sage scrub obligate species, and other covered habitats and species, and to mitigate anticipated impacts to those habitats and species on a programmatic, sub-regional level rather than on a project-by-project, single-species basis (County of Orange 1996).	nonsignatories to the NCCP/HCP would be required to comply with local, state, and federal policies that pertain to mitigating for impacts to special-status species and sensitive natural communities. As discussed above, please refer to Section 4.2.2, Environmental Analysis. The project would implement Pre-Construction Surveys. As described in MM-BIO-1, prior to the onset of work, a qualified biologist shall conduct a pre-construction survey for sensitive biological resources within and near the project site. Should special-status species be found, then measures recommended by the qualified biologist shall be incorporated into the project to reduce the likelihood of species impacts. As detailed in MM-BIO-2, potential impacts exist for avian species during the breeding season occurring between February 1 and August 31 for general nesting birds and January 1 through September 15 for raptors. Work conducted during these months will require a nesting bird survey conducted by a qualified biologist within and near the project footprint within 72 hours of the onset of activities. Should the qualified biologist discover any nesting birds, then appropriate measures, as determined by the qualified biologist, will be implemented to minimize impacts. Additional best management practices and environmental awareness training will be implemented.
Cultural Resources	Advisory Council on Historic Preservation	Federal	National Historic Preservation Act (NHPA) of 1966	Enacted in 1966, the NHPA declared a national policy of historic preservation and instituted a multifaceted program, administered by the National Parks Service, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP, and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.	Not applicable. The Project does not require a permit from the U.S. Army Corps of Engineers or any other federal permitting entities.
Cultural Resources	Advisory Council on Historic Preservation	Federal	National Register of Historic Places	The content of 36 CFR, Part 60.4, defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historic significance in consultation with the ACHP and the California State Historic Preservation Officer to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association.	The project consistency assessment for Cultural Resources will be provided following the completion of the historic architectural survey.

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Cultural Resources	Advisory Council on Historic Preservation	Federal	National Graves Protection and Repatriation Act of 1990	The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.	
Cultural Resources	State Historic Preservation Office	State	California Register of Historical Resources (CRHR)	The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys	
Cultural Resources	State Historic Preservation Office	State	Native American Historical Cultural Sites (California Public Resources Code Section 5097 et. Seq.)	State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.	
Cultural Resources	State Historic Preservation Office	State	California Native American Graves Protection and Repatriation Act	The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.	
Cultural Resources	State Historic Preservation Office	State	California State Assembly Bill (AB) 52	Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that tribal cultural resources must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.	
Cultural Resources	State Historic Preservation Office	State	California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98	California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must	

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				contact the California NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.	
Cultural Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	The Cultural Resources Element of the City of San Juan Capistrano's General Plan, adopted in 2014, details the City's plan for the protection and preservation of its historic, archaeological, and paleontological resources.	
Geological Hazards and Resources	California Building Standards Commission, State of California	State	California Building Code	The State of California establishes minimum standards for building design and construction through the California Building Code (CBC) (California Code of Regulations, Title 24). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions in California.	The Project will be required to be designed and constructed to meet the applicable requirements of the CBC.
Geological Hazards and Resources	California Building Standards Commission, State of California	State	Alquist-Priolo Earthquake Fault Zone Act (Title 14, Division 2, Chapter 8, Subchapter 1, Article 3, CCR)	The Alquist–Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults, and published maps showing these zones.	The site is in southern California, which is a seismically active area, however, earthquake faults are not mapped within or projecting toward the site. The nearest Alquist-Priolo fault zone is the Elsinore fault zone located approximately 18 miles northeast of the site. The Project will be required to be designed and constructed to meet the applicable seismic requirements of the CBC.
Geological Hazards and Resources	California Building Standards Commission, State of California	State	Seismic Hazards Mapping Act (Title 14, Division 2, Chapter 8, Subchapter 1, Article 10, CCR)	The Seismic Hazards Mapping Act of 1990 (California Public Resources Code, Chapter 7.8, Section 2690 et seq.) directs the CGS to protect the public from earthquake-induced liquefaction and landslide hazards (these hazards are distinct from fault surface rupture hazard regulated by the Alquist–Priolo Act). This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones (i.e., zones of required investigation).	The site is located within a State-designated Seismic Hazard Zone for liquefaction potential. A preliminary liquefaction analysis conducted as part of the site-specific geotechnical exploration showed the potential for a minor amount of seismically induced settlement. Liquefaction related impacts can be mitigated to less than significant. The site is bounded from the east and west by steep slopes and contains mapped landslide potential areas. Landsliding related impacts can be mitigated to less than significant. The Project's site-specific geotechnical investigation determined the site is suitable for the proposed use based upon geotechnical conditions encountered in the test borings, provided that the findings and recommendations presented in the geotechnical engineering report are incorporated into project design and construction (see Appendix 4.4A). The Project will be required to be designed and constructed to meet the applicable seismic requirements of the CBC.

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Geological Hazards and Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	The City's General Plan includes policies and programs that are intended to address geology and soils and guide future development in a way that lessens impacts. For instance, the Safety Element addresses issues related to protecting the community from any unreasonable risks associated with seismically induced surface rupture, ground shaking, ground failure, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified on seismic hazard maps; other known geologic hazards; flooding; and wildland and urban fires.	The Project's site-specific geotechnical investigation determined the site is suitable for the proposed use based upon geotechnical conditions encountered in the test borings, provided that the findings and recommendations presented in the geotechnical engineering report are incorporated into project design and construction (see Appendix 4.4A). The Project will be required to be designed and constructed to meet the applicable seismic requirements of the CBC.
Geological Hazards and Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code	The City adopted, with amendments, and enforces the 2016 edition of the CBC as published by the International Code Council. Chapter 2, Building Code, of Title 8, of the City's Municipal Code is the City's Building Code. The purpose of a building code is to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the City. Building Code provisions apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the City.	
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 302 EPCRA (Public Law 99-499, 42 USC 11022); Hazardous Chemical Reporting: Community Right-To-Know (40 USC 11002)	Requires one-time notification if environmental hazardous substances are stored in excess of threshold planning quantities	The project Hazardous Materials Business Plan (HMBP) will include a hazardous materials inventory, including those that are handled or stored in excess of threshold quantities.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 304, EPCRA (Public Law 99 – 499, 42 USC 11002); Emergency Planning Notification	Requires notification when there is a release of hazardous material in excess of its reportable quantity	The project will comply in the event of a release of hazardous material in excess of its reportable quantity
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 311, EPCRA (Public Law 99-499, 41 USC 11-21); Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires that safety data sheets for all hazardous materials or a list of all hazardous materials be submitted to the State Emergency Response Commission and Orange County Health Care Agency Environmental Health Division	The HMBP will include a hazardous materials inventory, including those that are handled or stored in excess of threshold quantities.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 313 EPCRA (Public Law 99 – 499, 42 USC 11023); Toxic Chemical Release Reporting: Community To-Know (40 CFR 372)	Requires annual reporting of releases of hazardous materials	The project will comply in the event of a release of hazardous materials occurs.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 112, CAA Amendments (Public Law 101 – 549, 42 USC 7412); Chemical Accident Prevention Provisions (40 CFR 68)	Requires facilities that store a regulated hazardous material at quantity greater than the threshold quantity to develop an RMP	Please refer to Section 8.1.2 of Data Request Response #1. A draft Spill Prevention, Control, and Countermeasure (SPCC) Plan has been provided.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	Federal	Section 311, CWA (Public Law 92 – 500, 33 USC 1251 et seq.); Oil Pollution Prevention (40 CFR 112)	Requires the preparation of a SPCC plan if 660 gallons oil/petroleum products are stored in a single container or collectively the site stores 1,320 gallons or more	Please refer to Section 8.1.2 of Data Request Response #1. A draft SPCC Plan has been provided.

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Hazardous Materials Handling	Cal/OSHA, but submitted to Orange County Health Care Agency Environmental Health Division	State	Health and Safety Code, Section 25500 et seq. (HMBP)	Requires preparation of a HMBP if hazardous materials are handled or stored in excess of threshold quantities	The facility will require a HMBP during construction, operations and decommissioning because it is anticipated to have materials onsite that are greater than the State of California thresholds for quantities of hazardous materials. A draft HMBP has been provided.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	State	Health and Safety Code, Section 25531 through 25543.4 (CalARP)	Requires registration with local Certified Unified Program Agency (CUPA) or lead agency and preparation of Risk Management Plan if regulated substances are handled or stored in excess of threshold planning quantities	Please refer to Section 8.1.2 of Data Request Response #1. A draft SPCC Plan has been provided.
Hazardous Materials Handling	Orange County Health Care Agency Environmental Health Division	State	Occupational Safety and Health Act (19 CFR 1910.119)	For chemicals listed above thresholds listed in Appendix A, requires a process safety management (PSM) plan for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. These releases may result in toxic, fire or explosion hazards.	A PSM plan will not be required because no chemical that triggers a PSM plan will be used for the Project.
Hazardous Materials Handling	RWQCB	State	Health and Safety Code, Section 25270 through 25270.13 (Aboveground Petroleum Storage Act)	Requires the preparation of a SPCC plan if 660 gallons oil/petroleum products are stored in a single container or collectively the site stores 1,320 gallons or more.	Please refer to Section 8.1.2 of Data Request Response #1. A draft SPCC has been provided.
Hazardous Materials Handling	California Public Utilities Commission	State	Public Utilities Code, Section 761.3, Chapter 377	Requires the preparation of Emergency Response Plans (ERP) for battery energy storage projects.	An ERP will be prepared and implemented for the project.
Hazardous Materials Handling	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	Provides hazards and hazardous materials related goals and policies for development.	The Project will adhere to BMPs and training as described in Section 4.5.4.1 and Section 4.16, Worker Health and Safety will be implemented. In addition, as discussed in Section 4.17, Wildfire and Fire Prevention the Project will prepare and Hazard Mitigation Analysis (HMA) and ERP for this Project in compliance with all state and local laws and regulations and incorporating BMPs.
Hazardous Materials Handling	Orange County and Orange County Fire Authority (OCFA)	Local	Local Hazard Mitigation Plan (LHMP)	Mitigates natural hazards. As a multi-jurisdiction plan, the LHMP focuses on mitigating all natural hazards impacting unincorporated areas of the County as well as County and OCFA owned facilities.	The Project will adhere to all safety practices addressed in the LHMP, and BMPs and training as described in Section 4.5.4.1 and Section 4.16, Worker Health and Safety will be implemented. In addition, as discussed in Section 4.17, Wildfire and Fire Prevention the Project will prepare and HMA and ERP for this Project in compliance with all state and local laws and regulations and incorporating BMPs.
Land Use	California Energy Commission	State	AB 205	Governor Gavin Newsom signed AB 205 into law on June 30, 2022. This legislative effort significantly expands the California Energy Commission's jurisdiction and encourages the development of new clean energy projects. In short, AB 205 allows developers to opt in to a new streamlined environmental review and authorization process for certain solar, wind, and other qualifying clean energy projects under exclusive state jurisdiction.	The project is an eligible facility for AB 205 authorization by the CEC.
Land Use	California Department of Conservation	State	California Lands Conservation Act (Williamson Act)	The California Land Conservation Act, better known as the Williamson Act, has been the state's primary agricultural land protection program since its enactment in 1965. More than 16 million of the state's 30 million acres of farm and ranch land are currently protected under the Williamson Act. The Williamson Act creates an arrangement, whereby private landowners agree with counties and cities to voluntarily restrict land to agricultural and open-space uses. In return, the landowner receives property tax assessments that are lower than normal because the assessments are based on farming and/or open space uses rather than full market value.	There are no Williamson Act contracts that cover the Project site.

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Land Use	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	Comprehensive long-range plan to serve as the guide for the physical development of the City. The General Plan identifies five areas designated as Planned Community. The purpose of the Planned Community designation is to allow for the utilization of innovative land planning and building design. The Planned Community designation allows for flexibility in the design of a development project which may not be available with the other land use designations. The percentage mix of land uses for the planned communities serves as a guideline for developers, but may be modified with the approval of the City. As discussed above, the project site is within the Crystal Cathedral Ministries Planned Community which calls for 80% Public Institutional (includes retreat center) and 20% Assisted Care Facility (may include a wellness center. Maximum floor area ratio for Public Institutional will not be allowed unless the project offers exceptional benefits to the community.	Please refer to Section 4.6.2.2.2 of the application. Implementation of the Project by the applicant will not conflict with an applicable land use plan, policy, or regulation. Impacts would be less than significant.
Land Use	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code, Title 9, Land Use	Establishes zoning districts governing land use and the placement of buildings and district improvements. Title 9, Chapter 3, Zoning Districts and Standards, of the City of San Juan Capistrano's Municipal Code further refines the City of San Juan Capistrano General Plan and provides additional detail pertaining to allowed and conditional uses and specific development standards for the various zoning districts.	
Land Use	City of San Juan Capistrano	Local	Interim Ordinance Prohibiting New Commercial Battery Energy Storage Systems	On April 2, 2024, the City adopted an Interim Ordinance Prohibiting New Commercial Battery Energy Storage Systems (Interim Ordinance) within the City for 45 days with two potential extensions for up to 24 months. During the time the Interim Ordinance is in effect, the City intends to study and consider land use development policies and standards related to BESS facilities that should be added to the City's General Plan and Zoning Regulations.	While implementation of the Project by the applicant will not conflict with an applicable land use plan, policy, or regulation, it will, however, conflict with the Interim Ordinance for as long as it is in effect.
Noise	Federal Aviation Administration	Federal	Code of Federal Regulations Title 14, Part 150	Prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs.	Please refer to Section 4.7 of the application. The Project would be constructed and operated in compliance with local noise requirements.
Noise	Federal Transit Administration	Federal	Transit Noise and Vibration Impact Assessment guidance manual	The FTA recommends a daytime construction noise level threshold of 80 dBA Leq over an eight-hour period when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project.	
Noise	State of California	State	California Noise Control Act of 1973	Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare	
Noise	State of California	State	California Department of Health Services (DHS)	DHS has developed guidelines of community noise acceptability for use by local agencies, which have been published by the Governor's Office of Planning and Research (2003) as the Land Use Compatibility for Community Noise Environments Matrix.	
Noise	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	City of San Juan Capistrano General Plan. The Noise Element of the City's General Plan works to minimize the effects of noise through proper land use planning, minimize transportation-related noise impacts, and minimize non-transportation-related noise impacts.	
Noise	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code	Section 9-3.531 of the City's Municipal Code, Noise Standards (residential and non-residential), addresses the creation or permitting the creation of any noise that exceed the standards within a residential, public and institutional, or commercial district. In addition, Section 9-3.531 of the City's Municipal Code addresses construction noise and states that	

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				construction activity noise is exempt from the City's noise standards if conducted between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday or between the hours of 8:30 a.m. and 4:30 p.m. on Saturday. Construction noise is prohibited on Sundays and national holidays.	
Paleontological Resources	National Park Service, the Bureau of Land Management, and U.S. Fish and Wildlife Service	Federal	Paleontological Resources Preservation Act of 2009	The Omnibus Public Land Management Act, Paleontological Resource Preservation Subtitle (16 U.S.C. 470aaa et seq.) directs the Secretaries (Interior and Agriculture) to manage and protect paleontological resources on federal land using scientific principles and expertise.	Not applicable. The Project does not involve federal lands.
Paleontological Resources	National Park Service	Federal	Antiquities Act of 1906 (16 U.S.C. 431 433)	Although there is no specific mention of natural or paleontological resources in the Antiquities Act, or in the act's uniform rules and regulations (43 Code of Federal Regulations [CFR] 3]), "objects of antiquity" has been interpreted to include fossils by the NPS, BLM, USFS, and other federal agencies. Permits to collect fossils on lands administered by federal agencies are authorized under this act. Therefore, projects involving federal lands will require permits for both paleontological resource evaluation and mitigation efforts.	Not applicable. The Project does not involve federal lands.
Paleontological Resources	U.S. Department of Transportation	Federal	Archaeological and Paleontological Salvage (23 U.S.C. 305)	This statute allows funding for mitigation of paleontological resources recovered pursuant to federal aid highway projects, provided that "excavated objects and information are to be used for public purposes without private gain to any individual or organization" (Federal Register [FR] 46[19]: 9570).	Not applicable. The Project does not involve federal lands.
Paleontological Resources	City of San Juan Capistrano	Federal	Public Resources Code Section 5097.5	No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on [lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof], except with the express permission of the public agency having the jurisdiction over the lands. Violation of this section is a misdemeanor.	Please refer to Section 4.8.4.3 of the application. The Project will be required to prepare a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) for CEC review and approval. The PRMMP shall be consistent with the 2010 SVP guidelines.
Paleontological Resources	California State Parks	State	California Code of Regulations	Two sections of the California Code of Regulations (14 CCR Division 3, Chapter 1), applicable to lands administered by State Parks, address paleontological resources: **Section 4307: Geological Features—** "No person shall destroy, disturb, mutilate, or remove earth, sand, gravel, oil, minerals, rocks, paleontological features, or features of caves." **Section 4309: Special Permits—** [California Department of Parks and Recreation] may grant a permit to remove, treat, disturb, or destroy plants or animals or geological, historical, archaeological or paleontological materials; and any person who has been properly granted such a permit shall to that extent not be liable for prosecution for violating the foregoing.	
Paleontological Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	The Cultural Resources Element of the City of San Juan Capistrano General Plan discusses paleontological resources	
Paleontological Resources	Society of Vertebrate Paleontology (SVP)	Local	Professional Standards	The SVP is an international organization of professional paleontologists that has established standard guidelines for acceptable professional practices. The SVP provides standards for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. The majority of professional paleontologists in the United States follow the SVP's guidelines and apply them not only to vertebrate fossils but also to scientifically significant invertebrate, plant, and trace fossils.	

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Public Health	CARB	State	Air Toxics Program	The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code.	The results of the construction HRA shown in Table 4.9-2 of the application, demonstrate that the Project would not result in a significant incremental health risk from construction of the Project. As discussed previously, commissioning and operation of the Project would not result in emissions greater than those estimates for construction of the Project. Therefore, commissioning and operation of the Project would also not result in significant incremental health risks. Additionally, the results from the criteria air pollutant impact analysis (see Section 4.1 of the application) determined that the Project would not result in significant impacts related to criteria air pollutant emissions.
Public Health	CARB	State	Diesel Risk Reduction Plan	In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program.	
Socioeconomics	EPA	Federal	Executive Order (EO) 12898	Avoid disproportionately high and adverse impacts on minority and low-income members of the community. Applies only to federal agencies.	Please refer to Section 4.10.2.5 of the application. Although EO 12898 was used to inform the analysis, it is not applicable to the Project since the Project is located not located on federal lands or subject to federal permits.
Socioeconomics	Local School Districts	State	Government Code Sections 65996-65997	Establishes that the levy of a fee for construction of an industrial facility be considered mitigating impacts on school facilities. School districts may charge a one-time assessment fee to mitigate potential school impacts.	The operations of the Project will require only a small workforce. As such, operations will not cause a significant increase in demand for school services or significant adverse impact to school services.
Socioeconomics	California Department of Education	State	Education Code Section 17620	Allows a school district to levy a fee against any construction within the boundaries of the district for the purpose of funding construction of school facilities. Local school districts may charge a one-time assessment fee to mitigate potential school impacts.	The operations of the Project will require only a small workforce. As such, operations will not cause a significant increase in demand for school services or significant adverse impact to school services.
Socioeconomics	City of San Juan Capistrano	Local	City of San Juan Capistrano Developer Impact Fees	Levies developer fees on residential, commercial, and industrial development for the purpose of financing City facilities.	The Project will not be subject to developer fees. However, please refer to the Project's Community Benefits Plan.
Socioeconomics	Capistrano Unified School District	Local	Capistrano Unified School District Developer Fee Program	Levies developer fees on residential, commercial, and industrial development for the purpose of financing school facilities construction.	The operations of the Project will require only a small workforce. As such, operations will not cause a significant increase in demand for school services or significant adverse impact to school services.
Soils	RWQCB	Federal	CWA/Water Pollution Control Act. 1972, amended by Water Quality Act of 1987 P.L. 100-4	Regulates stormwater and non-stormwater discharges from construction and industrial activities	The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the U.S. or state during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have no impact to wetlands and waters of the U.S. or state.

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Soils	Natural Resources Conservation Service (NRCS)	Federal	NRCS (1983), National Engineering Handbook, Sections 2 and 3	Standards for soil conservation (estimating runoff volume/peak discharge and sedimentation)	The following mitigation measures will reduce potential impacts related to soils during construction and operation of the proposed Project: ▪ Verify the recommendations provided in the geotechnical report are followed during the construction of the proposed project. ▪ Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that follow BMPs to mitigate water and wind erosion.
Soils	RWQCB	State	Porter-Cologne Water Quality Control Act	Regulates discharges of waste to state waters and land	The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the state during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have no impact to wetlands and waters of the state.
Soils	California Building Standards Commission	State	Table 18-1-B of the Uniform Building Code (International Code Council, 1994)	Sets standards for defining expansive soils	The Project will be designed and constructed in compliance with the Uniform Building Code.
Soils	City of San Juan Capistrano	Local	San Juan Capistrano Municipal Code	Standards for grading and water quality, including permit requirements	The Project will designed and constructed in compliance with local building and grading sections of the municipal code.
Traffic and Transportation	U.S. Department of Transportation and California Highway Patrol (CHP)	Federal	Code of Federal Regulations (CFR) Hazardous Material Regulations (HMR: 49 CFR Parts 171-180)	These regulations provide standards for labels, placards, and markings on hazardous materials shipments by truck (Part 172), standards for packaging hazardous materials (Parts 173), and for transporting hazardous materials in tank cars (Part 179).	The Project will appropriately label and mark hazardous materials that are transported by truck to and from the Project site.
Traffic and Transportation	Caltrans and California Highway Patrol	State	California Vehicle Code	The California Vehicle Code (CVC) is the set of statutes that regulate the operation, registration, and ownership of motor vehicles (as well as bicycles and other devices) used to move people, animals and goods along the state's roadways. Following sections would apply to Project. ▪ CVC Sections 13369, 15275, and 15278 address the licensing of drivers and classifications of licenses required to operate particular types of vehicles. ▪ CVC Sections 32100.5 addresses the transportation of hazardous materials that pose an inhalation hazard. ▪ CVC, 13 CCR 1160, et seq. provides the CHP with authority to adopt regulations for the transportation of hazardous materials in California. The CHP can issue permits and specify the route for hazardous material delivery. ▪ California Streets and Highway Code (S&HC), Sections 660, 670, 1450, 1460 et seq. 1470, and 1480, regulate right-of-way encroachment and granting of permits for encroachments on state and county roads. ▪ S&HC Sections 117 and 660–711 and CVC Sections 35780 et seq., require permits to transport oversized loads on county roads. S&HC Sections 117 and 660 to 711 require permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way. CVC Section 35780 requires approval for a permit to transport oversized or excessive loads over state highways.	The Project will comply with applicable sections of the CVC during construction and operation.

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				▪ Caltrans weight and load limitations for state highways apply to all state and local roadways. The weight and load limitations are specified in CVC Sections 35550 to 35559. The following provisions, from the CVC, apply to all roadways and are therefore applicable to this project. ▪ General Provisions: The gross weight imposed upon the highway by the wheels on any axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds. ▪ The maximum wheel load is the lesser of the following: (a) the load limit established by the tire manufacturer, or (b) a load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width. ▪ Vehicles with Trailers or Semi-trailers: The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds.	
Traffic and Transportation	City of San Juan Capistrano	Local	San Juan Capistrano Municipal Code	Sections 7-6.01 to 7-6.20 require permits for any construction, maintenance, or repair involving encroachment on any highways or public roads. Sections 4-6.301 to 4-6.325 provide limitations for parking such as prohibitions, restrictions and exceptions as specified.	The Project will apply for a single/annual transportation permit for oversize and overweight loads through City of San Juan Capistrano.
Traffic and Transportation	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	The Circulation Element (1999) aims to guide the continued development and implementation of the circulation system to support existing and planned development. The Circulation Element also established acceptable roadway service levels and identifies improvements required to maintain these service levels. It is the stated goal of the City to maintain traffic and transportation level of service (LOS) at LOS D, with the exception of hot-spot intersections and roadway segments, where LOS E is considered satisfactory. The Circulation Element also encourages the use of other transportation modes, including transit, walking, bicycling, and equestrian riding to reduce the demand on the transportation system and improve air quality.	As shown in Section 4.12.2 of the application, the construction of the Project would generate temporary trips. The peak construction trips analysis would not result in unacceptable LOS at the study area intersection. The Project would not generate permanent trips, therefore, would not conflict with the City's General Plan or Circulation Element.
Traffic and Transportation	Orange County Transportation Authority (OCTA)	Local	Orange County Congestion Management Program	State law requires that a Congestion Management Program (CMP) be developed, adopted, and updated biennially for every county that includes an urbanized area, and requires that it include every city and the county government within that county. As the Congestion Management Agency for Orange County, OCTA is responsible for implementing the Orange County CMP. OCTA adopted the CMP in 1991 to reduce traffic congestion and to provide a mechanism for coordinating land use and development decisions in Orange County. Compliance with the CMP requirements ensures a city's eligibility to compete for State gas tax funds for local transportation projects. The 2021 CMP Update is the most recent report prepared by OCTA. A CMP traffic analysis is required for projects that generate 2,400 or more daily trips.	The Project would not generate 2,400 or more daily trips. A CMP traffic analysis is not required.
Visual Resources	Caltrans	State	California Scenic Highways Program	In 1963, the California Legislature created the Scenic Highway Program to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in Section 260 et seq. of the Streets and Highways Code. A highway may be designated as scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view (Caltrans 2008). A state route must be included on the list of highways eligible for scenic highway designation in	No eligible or designated scenic highways occur within 2 miles of the Project site. The closest eligible scenic highway is Highway 74 from I-5 in San Juan Capistrano to State Route 111 in Palm Springs. Due to intervening development, vegetation, and terrain, the Project would not be visible from Highway 74. There are no officially designated state scenic highways in south Orange

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				Streets and Highways Code Section 263 for it to be nominated for official designation (eligible state routes are those that have been listed in Section 263 by the state legislature).	County. Therefore, the Project is not required to consider the state Scenic Highway Program.
Visual Resources	City of San Juan Capistrano	Local	San Juan Capistrano General Plan	The Land Use Element and Community Design Element of the City's General Plan include goals and policies related to open space, community and neighborhood character, and views.	Please refer to Section 4.13 of the application for a discussion of Project compliance with applicable City goals and policies related to open space, community and neighborhood character, and views.
Visual Resources	City of San Juan Capistrano	Local	San Juan Capistrano Municipal Code	San Juan Capistrano Municipal Code Section 9-3.614 establishes exterior lighting standards for parking lots within commercial industrial and public institutional districts and more specifically, on all properties located within a commercial (CN, CT, CG, CM, FM, and CO), industrial (MG and MP), and public institutional (IP) district, special districts including Planned Community (PC), Planned Development (PD), and Precise Plan (SP) district. The lighting levels are dictated by level of activity (high, medium, and low).	The Project will prepare a lighting plan that will demonstrate Project lighting is in compliance with local regulations. The Project's lighting plan will be reviewed by the City.
Waste Management	California Integrated Waste Management Board (CIWMB) and SWRCB	Federal	Resource Conservation and Recovery Act (RCRA) Subtitle D	Federal involvement is limited to establishing minimum criteria that prescribe the best practicable controls and monitoring requirements for solid waste disposal facilities. RCRA 42 United States Code 6901 Subtitle D assigns responsibility for the regulation of nonhazardous waste to the states.	The Project will handle solid waste in compliance with RCRA Subtitle D.
Waste Management	Department of Toxic Substances Control	Federal	RCRA Subtitle C	RCRA 42 United States Code 6901 Subtitle C establishes a "cradle to grave" system of hazardous waste management by instituting controls for generation, transportation, treatment, storage, and disposal of hazardous waste. Above certain levels of waste produced, Subtitle C applies to all states and all hazardous waste generators. RCRA also establishes waste regulations for energetic wastes (explosives) in 40 CFR Part 266, Subpart M.	The Project will handle hazardous waste in compliance with RCRA Subtitle C.
Waste Management	CalRecycle	State	California Integrated Waste Management Act (CIWMA)	AB 939 established the California Integrated Waste Management Act of 1989 (Public Resources Code Sections 42900–42927) which required all California cities and counties to reduce the volume of solid waste deposited in landfills by 50 percent by the year 2000. It also requires that cities and counties continue to remain at 50 percent or higher for each subsequent year. The act is intended to reduce, recycle, and reuse solid waste generated to the maximum extent feasible. The act requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the act's mandated diversion goals. Each jurisdiction's SRRE must include specific components as defined in Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction; (2) recycling and composting; and (3) environmentally safe transformation and land disposal. The SRRE is required to emphasize and maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste to be disposed of by transformation and land disposal (Public Resources Code Sections 40051, 41002, and 41302).	The Project will handle and recycle solid waste in compliance with AB 939.
Waste Management	CalRecycle	State	Assembly Bill 341 / State Bill 1018 – Mandatory Commercial Recycling	Requires commercial businesses generating 4 cubic yards per week or more of solid waste to adopt recycling practices	Not applicable. The Project is not anticipated to generate 4 cubic yards per week of solid waste during operations.
Waste Management	DTSC	State	Hazardous Waste Control Law (HWCL)	Within the Health and Safety Code Section 25100 et seq, California outlined the HWCL to develop its own hazardous waste materials management program. HWCL includes RCRA mandates instituted in Subtitle C and D and performs essentially the same functions. The HWCL is more stringent than RCRA guidelines and classifies additional materials and liquids as hazardous.	The Project will adhere to the storage, record keeping, reporting, and training requirements mandated by HWCL. Additionally, the storage, use and wastes of storage of flammable/combustible liquids will be in accordance with the California Fire Code.

Response to DR LAND-6

Topic	Agency Having Jurisdiction	Federal/ State/Local	Applicable Law, Ordinance, Regulation, or Standard	Law, Ordinance, Regulation, or Standard Overview	Project Consistency
Waste Management	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code Sec. 6-3.08.01 Minimum Construction and Demolition Debris Diversion Requirements	Helps in diverting construction and demolition (C&D) waste from landfills and also to comply with mandates of CalRecycle. The City's diversion requirement is 65%, which means that certain projects are required to divert 65% of the total C&D waste tonnage at a project site from landfills.	The Project will divert a minimum of 65% of total Project waste.
Waste Management	Orange County Environmental Health Division	Local	Orange County Environmental Health Division - CUPA and various programs	Orange County Environmental Health Division is the CUPA for Orange County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes and/or have underground storage tanks.	The Project will comply with Orange County Environmental Health Division requirements related to hazardous waste during construction and operation.
Water Resources	RWQCB	State	Porter-Cologne Water Quality Control Act	The Porter-Cologne Water Quality Control Act (California Water Code, Division 7) is the state law governing water quality of all state waters, including both surface waters and groundwater. Under the Porter-Cologne Water Quality Control Act, SWRCB has the ultimate authority over water quality policy on a state-wide level, and nine RWQCBs establish and implement water quality standards specific for each respective region. The San Diego RWQCB regulates water quality in the Project area, jointly implementing the federal CWA and the state Porter Cologne Water Quality Control Act.	The Project will not impact state waters.
Water Resources	RWQCB/SWRCB	State	NPDES Construction Stormwater Permit	The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. SWRCB is the permitting authority in California and has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (SWRCB Water Quality Order No. 99-08-DWQ]) that applies to projects resulting in one acre or more of soil disturbance. The proposed project will result in disturbance of more than one acre of soil. Therefore, the project will require the preparation of a construction SWPPP that will specify site management activities to be implemented during site development. These management activities will include construction stormwater best management practices, dewatering runoff controls, and construction equipment decontamination. The RWQCB requires a Notice of Intent to be filed before any stormwater discharge from construction activities, and it requires that the SWPPP be implemented and maintained onsite. A Construction Drainage Erosion and Sediment Control Plan/SWPPP will be completed before the beginning of construction activities.	The Project will disturb more than one acre of soil during construction. The Project will prepare a SWPPP and file a Notice of Intent prior to construction.
Water Resources	RWQCB/SWRCB	State	NPDES Stormwater Industrial General Permit	The Industrial General Permit regulates industrial storm water discharges and authorized non-storm water discharges from industrial facilities in California.	There will be no industrial stormwater discharges during the operation phases of the project; therefore, a NPDES Stormwater Industrial General Permit is not required.
Water Resources	Orange County Public Works	Local	Orange County National Pollutant Discharge Elimination System Permit	The City is a Permittee of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4) Draining the Watersheds within the San Diego Region (South Orange County MS4 Permit), Order R9-2013-0001, NPDES No. CAS6010266, as amended by Order No. R9-2015-0001. The South Orange County MS4 Permit regulates discharges into the MS4 system in the cities and county areas within Orange County that are in the jurisdiction of the San Diego RWQCB. As discussed further below, the South Orange County MS4 Permit requires preparation of a Water Quality Management Plan (WQMP) and implementation of post-construction BMPs for new development and significant redevelopment projects that qualify as Priority Development Projects. The proposed project is considered a Priority Development Project.	A WQMP has been prepared for the Project and post-construction BMPs will be implemented.
Water Resources	Orange County Public Works	Local	Drainage Area Management Program	The Drainage Area Management Plan (DAMP) was created by the County of Orange, the OCFCD, and incorporated cities (permittees), and includes specific water pollutant requirements of the Orange County Stormwater Program. The DAMP is the principal guidance and compliance document for the county-wide implementation of the Stormwater	The Project's stormwater design was developed in compliance with the DAMP.

Response to DR LAND-6

Topic	Agency Having Jurisdiction	Federal/ State/Local	Applicable Law, Ordinance, Regulation, or Standard	Law, Ordinance, Regulation, or Standard Overview	Project Consistency
				Program. It is the foundation for the permittees to implement model programs designed to prevent pollutants from entering receiving waters to the maximum extent practicable. Section 7 of the DAMP discusses issues relating to new developments and significant redevelopments.	
Water Resources	Orange County Public Works	Local	Model Water Quality Management Plan	The Model Water Quality Management Plan (Model WQMP) for South Orange County was developed to aid Orange County, the OCFCD, the cities in Orange County (permittees), and developers in Orange County to address post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Development Projects. Priority Development Projects are required to develop a Project WQMP to minimize adverse impacts of development to on-site hydrology, volume and rate of runoff, and pollutants of concern. Project WQMPs include project-specific BMPs to minimize these effects (e.g., Low Impact Development [LID], site design measures, source control BMPs). The requirements identified in the Project WQMPs are subject to Section 7 of the DAMP.	A WQMP has been prepared for the Project and post-construction BMPs will be implemented.
Water Resources	Orange County Public Works	Local	Technical Guidance Document	The County of Orange developed the Technical Guidance Document (TGD) for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (WQMPs) in South Orange County (TGD) in cooperation with the incorporated cities of South Orange County to aid agency staff and project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects in Orange County. The TGD serves as a technical guidance to complete the Project WQMP.	The Project's stormwater design was developed in compliance with the TGD.
Water Resources	Orange County Public Works	Local	Hydromodification Plan	Pursuant to the requirements of the South Orange County MS4 Permit, the County prepared the South Orange County Hydromodifcation Management Plan (HMP). All priority development projects that do not meet the exemption criteria are required to comply with hydromodification criteria in the HMP. The goal of hydromodification control is to integrate hydrologic controls into a proposed project so that post-project runoff discharge rates and durations do not exceed predevelopment (naturally occurring) discharge rates and durations.	The Project's stormwater design was developed in compliance with the HMP.
Water Resources	Orange County Public Works	Local	Orange County Construction Runoff Guidance Manual	The Construction Runoff Guidance Manual for Contractors, Project Owners, and Developers presents the requirements related to construction from the DAMP. The goal of this Guidance Manual is to control pollutant discharges from construction sites. As such, it helps applicants with building and grading permits to understand the water quality requirements during the construction phase of development projects.	The Project will comply with the Construction Runoff Guidance Manual during construction via implementation of the Project's SWPPP.
Water Resources	City of San Juan Capistrano	Local	City of San Juan Capistrano Water Quality Control Ordinance	Title 8, Chapter 14 of the City's Municipal Code contains certain requirements and prohibitions to help prevent runoff from polluting streams, and to comply with the federal requirements to control pollutants entering the City's storm water system.	The Project will comply with this ordinance and employ best management practices to prevent construction debris and discharges from leaving the Project site and entering Oso Creek.
Worker Health and Safety	OSHA	Federal	Title 29 Code of Federal Regulations Part 1910	Contains the minimum occupational safety and health standards for general industry in the United States	The Project will be constructed and operated in accordance with applicable OSHA laws.
Worker Health and Safety	OSHA	Federal	Title 29 Code of Federal Regulations Part 1926	Contains the minimum occupational safety and health standards for construction industry in the United States	The Project will be constructed and operated in accordance with applicable OSHA laws.
Worker Health and Safety	Cal/OSHA	State	California Occupational Safety and Health Act, 1970	Establishes minimum safety and health standards for construction and general industry operations in California	The Project will be constructed and operated in accordance with applicable Cal/OSHA laws.
Worker Health and Safety	Cal/OSHA	State	Title 24, Part 3, California Electrical Code	Requirements for electrical safety, which include the Uniform Electrical Code, Title 24, Part 3	The Project will be constructed and operated in accordance with applicable Cal/OSHA laws.

Response to DR LAND-6

Topic	Agency Having Jurisdiction	Federal/ State/Local	Applicable Law, Ordinance, Regulation, or Standard	Law, Ordinance, Regulation, or Standard Overview	Project Consistency
Worker Health and Safety	Cal/OSHA	State	Title 24, Part 9, Chapter 6, Section 608	California Fire Code requirements for stationary storage battery systems	The Project will be constructed and operated in accordance with applicable Cal/OSHA laws.
Worker Health and Safety	Cal/OSHA	State	Health and Safety Code Sections 25500 through 25541	Requirements for the preparation of a Hazardous Material Business Plan that details emergency response plans for a hazardous materials emergency at the facility	The Project will be constructed and operated in accordance with applicable Cal/OSHA laws.
Worker Health and Safety	Orange County Health Care Agency Environmental Health Division	Local	Hazardous Materials Business Plan	Orange County Environmental Health Division is the designated CUPA and is responsible for administering Hazardous Materials Business Plans.	A HMBP will be drafted and implemented for the Project.
Worker Health and Safety	Orange County Fire Authority (OCFA)	Local	OCFA Guideline G-10, Stationary Storage Battery Systems (Stationary Lead Acid Battery Systems)	The guideline outlines the requirements and regulations for stationary storage battery systems.	The Project will be designed, constructed, and operated in compliance with OCFA regulations.
Wildfire and Fire Protection	U.S. Fire Administration	Federal	National Fire Protection Association Codes, Standards, Practices, and Guides	Provides standards for the design, installation, operation and removal of BESS in regard to fire safety.	The NFPA Standards provide the basis for state regulation (California Fire Code (CFC) Chapter 12 Section 1207), which the proposed Project will comply with.
Wildfire and Fire Protection	U.S. Fire Administration	Federal	North American Electric Reliability Corporation; Institute of Electrical and Electronics Engineers; National Electrical Safety Code	Electrical components of the proposed Project. Most notably, overhead powerlines.	All electrical components, most notably overhead powerlines, associated with the proposed Project, would comply with the requirements of these LORS, most notably the vegetation management requirements.
Wildfire and Fire Protection	U.S. Fire Administration	Federal	Federal Wildland Fire Management Policy; National Fire Plan	Policies of fire suppression services provided to the proposed Project.	These documents impact the policies of the agencies that would provide fire suppression services to the proposed Project.
Wildfire and Fire Protection	U.S. Fire Administration	Federal	International Fire Code; International Wildland–Urban Interface Code	Model codes for California.	As a model code for the CFC and upcoming Wildland-Urban Interface Code, they impact what requirements are adopted by the State and subsequently County.
Wildfire and Fire Protection	CAL FIRE	State	CGC Sections 51175 through 51181; PRC Sections 4292-4293; PUC 8386	LORS pertaining mainly to defensible space, vegetation management around powerlines, and fire hazard severity zones.	Vegetation management around power lines would be in compliance with these requirements
Wildfire and Fire Protection	CAL FIRE	State	Part 9 of CCR Title 24, California Fire Code	Establishes requirements for fire department access, fire protection systems, BESS design, installation, operation, and removal.	All Project components will be in compliance with the requirements of the CFC including those pertaining to fire apparatus access, and BESS design.
Wildfire and Fire Protection	CAL FIRE	State	California Public Resources Code 4201-4204, California Code of Regulations Title 14, Section 1280 and California Government Code 51175-89	The CAL FIRE subdivision, Fire and Resource Assessment Program (FRAP), creates the Fire Hazard Severity Zones (FHSZ) maps that dictate what FHSZs are near the proposed Project.	The Project not located in FHSZ nor in an SRA area that would be served by CAL FIRE suppression services and have to comply to all pertinent LORS for development in a SRA.
Wildfire and Fire Protection	CAL FIRE	State	Mutual Aid Agreements	Establishes agreements between fire protection agencies to provide aid to nearby areas when necessary.	Enables fire protection to be provided by the nearest resource and for additional resources to respond when necessary.

Response to DR LAND-6

Topic	Agency Having Jurisdiction	Federal/ State/Local	Applicable Law, Ordinance, Regulation, or Standard	Law, Ordinance, Regulation, or Standard Overview	Project Consistency
Wildfire and Fire Protection	OCFA	Local	OCFA 2023 Strategic Fire Plan; County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan; Unified County of Orange and Orange County Operational Area Emergency Operations Plan	Establishes operational policies and plans for the agencies providing emergency services.	Impacts the agencies that would provide emergency services to the proposed Project and possible evacuation orders.
Wildfire and Fire Protection	City of San Juan Capistrano	Local	City of San Juan Capistrano General Plan	Establishes policies that guide fire-safe development and local emergency services.	Provides general principles that the proposed Project would follow as well as policies that would impact the emergency services that would serve the proposed Project.
Wildfire and Fire Protection	City of San Juan Capistrano	Local	City of San Juan Capistrano Municipal Code	Contains the City of San Juan Capistrano Fire Code, which outlines the requirements of the proposed Project pertaining to fire safety.	Contains pertinent local codes (Fire Electrical), that all proposed Project components would have to follow.

Attachment 12

DR LAND-7. Permit and Approval Table

Response to DR LAND-7

Agency	Agency Contact Information	Permit/Approval Required	Status
California Energy Commission	Renee Longman Siting, Transmission and Environmental Protection Division 1516 Ninth Street, MS 15 Sacramento, CA 95814 Renee.Longman@Energy.ca.gov	Site Certification for Opt-In Project; Environmental review under California Environmental Quality Act; AB 52 Tribal Consultation	Application submitted April 2024.
Moulton Niguel Water District (MNWD)	Mark Mountford & Sheldon Yu P.O. Box 30203, Laguna Niguel, CA 92607 MMountford@mnwd.com SYu@mnwd.com	Water Service Agreement	Consultation has confirmed MNWD is the appropriate water supplier.
Moulton Niguel Water District & Santa Margarita Water District	See above for Moulton Niguel Water District contact information. 26111 Antonio Parkway Rancho Santa Margarita, CA 92688 (949) 459-6420	Interagency Agreement because the project is located within the Santa Margarita Water District service area but will be served by MNWD due to proximity of existing MNWD facilities north of the site	Interagency agreement in process.
Orange County Public Works/Orange County Flood Control District	Katie Park Development Coordination 601 North Ross Street Santa Ana, CA 92701 Katie.Park@ocpw.ocgov.com	Encroachment/MS4 Permit for stormwater outfall connection	Incorporated into CEC Certification. Compass Energy Storage, LLC has had initial conversations with Orange County Public Works/Orange County Flood Control District. Compass Energy Storage, LLC intends to file the application in fall 2024 and will notify the CEC thereafter.
Orange County Health Care Agency	Environmental Health Division 1241 E Dyer Rd., #120, Santa Ana, CA 92705 (714) 433-6000	Hazardous Materials Business Plan	Incorporated into CEC Certification
State and/or Regional Water Resources Control Board (SWRCB and/or RWQCB)	San Diego Regional Water Quality Control Board 2375 Northside Drive, Suite 100 San Diego, CA 92108	Construction Stormwater General Permit, Notice of Intent to Comply, SWPPP	Notice of Intent will be filed by EPC contractor prior to construction

Response to DR LAND-7

Agency	Agency Contact Information	Permit/Approval Required	Status
	(619) 516-1990		
California Department of Transportation	Permit Officer on Duty Caltrans, Transportation Permits Issuance Branch (916) 322-1297	Single/annual-trip transportation permit for oversized loads and oversized vehicles	Incorporated into CEC Certification
California Highway Patrol	Hazardous Material Licensing Program (916) 327-5039	Hazardous Materials Transportation License	Incorporated into CEC Certification
City of San Juan Capistrano	Public Works Department 30448 Rancho Viejo Road, Suite 110 San Juan Capistrano, CA 92675 (949) 443-6337	Single/annual transportation permit for oversize and overweight loads through City of San Juan Capistrano	Incorporated into CEC Certification
City of San Juan Capistrano	Paul Garcia Planning Division 30448 Rancho Viejo Rd. # 110 San Juan Capistrano, CA 92675 pgarcia@sanjuancapistrano.org	Use Permit	Incorporated into CEC Certification
City of San Juan Capistrano	Building Division 30448 Rancho Viejo Rd. # 110 San Juan Capistrano, CA 92675 (949) 443-6347	Grading/Building Permit	Incorporated into CEC Certification
Orange County Fire Authority	Rich Swanson & Robert Distaso Planning and Development Services Section 1 Fire Authority Road, Building A, Irvine, CA 92602 (714) 573-6100 Richswanson@ocfa.org Robertdistaso@ocfa.org	Fire Code Conformance/Plan Review	Incorporated into CEC Certification. Compass Energy Storage, LLC is coordinating with Orange County Fire Authority to develop the Hazardous Materials Analysis and Emergency Response Plan, and associated training. Compass Energy Storage, LLC intends to provide OCFA with review items in fall 2024 and will notify the CEC thereafter.

Attachment 13

DR PD-2. Loop-In Transmission Line Elevations

PLS-CADD DRAWING

PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY NOT FOR CONSTRUCTION

20
[Z223356]
90'-CLH4
WOOD
STD 13312-1033.5

21
[Z223358]
90'-CLH4
WOOD
STD 13312-1033.5

22
[Z223360]
80'-CL1
WOOD
STD 13312-1033.5

22A
[Z296189]
65'-EP
GALV
2021-2462.5500-02

22B
[Z296190]
100'-EP
GALV
2021-2462.5500-03

395

358

248, 62

544, 124

199

SDK (TO CAPISTRANO)

ADSS FROM
TL13834 - 26

PI 0°0'0"

PI 0°23'9"

PI 3°59'1"

PI -94°57'56"

PI 78°57'48"

PI 0°0'0"

ORTOLAN ACSR (EXISTING)
393.78 FT
4000 LBS G.O.95 L
2891 FT G.O.95 L
194 F

ORTOLAN ACSR (EXISTING)
357.23 FT
4000 LBS G.O.95 L
2774 FT G.O.95 L
194 F

ORTOLAN ACSR
246.37 FT
4500 LBS G.O.95 L
3166 FT G.O.95 L
194 F

ORTOLAN ACSR
541.35 FT
4000 LBS G.O.95 L
2804 FT G.O.95 L
194 F

ORTOLAN ACSR
195.75 FT
2000 LBS G.O.95 L
1390 FT G.O.95 L
194 F

300
250
200
150
100

0+00
2+50
5+00
7+50
10+00
12+50
15+00

REV	WORK ORDER	REVISION DESCRIPTION	DRN	CHKD	APPV	DATE
D		60% PACKAGE RE-SUBMITTAL	SLG	LJH	DVB	04/19/24
C		60% PACKAGE SUBMITTAL	SLG	LJH	DVB	09/08/23
B		30% PACKAGE RE-SUBMITTAL	SLG	SLG	AJD	03/06/23
A		30% PACKAGE SUBMITTAL	SLG	SLG	AJD	09/21/22

DISPLAY INFORMATION
138KV ORTOLAN ACSR DISPLAYED AT 194F FINAL RS
0KV 7NO 8 ALUMNOWELD DISPLAYED AT 60F FINAL RS
COMM. (72 FIBER CNT) 130 DEGREES (F) MOT FINAL
30' GROUND CLEARANCE LINE WITH 1.5' BUFFER

100.0 FT. HORIZ. SCALE
20.0 FT. VERT. SCALE
FOR 24 X 36 DRAWING ONLY

SDGE
SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
PLAN & PROFILE
COMPASS ENERGY STORAGE

138KV SADDLEBACK
SWITCHYARD
TL13829
STR 21 TO SADDLEBACK SY

1 OF 3

2021-2462.5120

PLS-CADD DRAWING

PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY NOT FOR CONSTRUCTION

22C
[Z296191]
95'-EP
GALV
2021-2462.5500-03

23
[Z296192]
85'-EP
GALV
2021-2462.5500-02

24
[Z296193]
90'-H3
GALV
2021-2462.5500-01

25
[Z223366]
75'-CL1
WOOD
STD 13312-1033.5

26
[Z223368]
75'-CL1
WOOD
STD 13302-1033.5

SDK (TO TRABUCO)

169

556

193, 170

361, 90

345

ADSS FROM
TL13834 - 27

PI 0°00'00"

PI 84°02'03"

PI -98°58'59"

PI 2°59'51"

PI 12°14'12"

PI -1°08'42"

ORTOLAN ACSR
166.59 FT
2000 LBS G.O.95 L
1391 FT G.O.95 L
194 F

ORTOLAN ACSR
553.19 FT
3500 LBS G.O.95 L
2445 FT G.O.95 L
194 F

ORTOLAN ACSR
312.97 FT
5000 LBS G.O.95 L
3511 FT G.O.95 L
194 F

ORTOLAN ACSR (EXISTING)
343.72 FT
5000 LBS G.O.95 L
3166 FT G.O.95 L
194 F

300
250
200
150
100

20+00
22+50
25+00
27+50
30+00
32+50
35+00

REV	WORK ORDER	REVISION DESCRIPTION	DRN	CHKD	APPV	DATE
D		60% PACKAGE RE-SUBMITTAL	SLG	LJH	DVB	04/19/24
C		60% PACKAGE SUBMITTAL	SLG	LJH	DVB	09/08/23
B		30% PACKAGE RE-SUBMITTAL	SLG	SLG	AJD	03/06/23
A		30% PACKAGE SUBMITTAL	SLG	SLG	AJD	09/21/22

DISPLAY INFORMATION
138KV ORTOLAN ACSR DISPLAYED AT 194F FINAL RS
0KV 7NO 8 ALUMNOWELD DISPLAYED AT 60F FINAL RS
COMM. (72 FIBER CNT) 130 DEGREES (F) MOT FINAL
30' GROUND CLEARANCE LINE WITH 1.5' BUFFER

100.0 FT. HORIZ. SCALE
20.0 FT. VERT. SCALE
FOR 24 X 36 DRAWING ONLY

SDGE
SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
PLAN & PROFILE
COMPASS ENERGY STORAGE

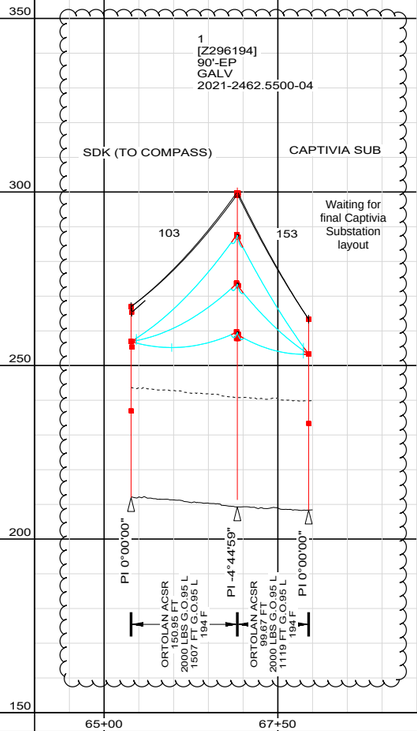
138KV SADDLEBACK
SWITCHYARD
TL13833
SADDLEBACK SY TO STR 26

2 OF 3 | 2021-2462.5120

PLS-CADD DRAWING

PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY NOT FOR CONSTRUCTION



REV	WORK ORDER	REVISION DESCRIPTION	DRN	CHKD	APPV	DATE
D		60% PACKAGE RE-SUBMITTAL	SLG	LJH	DVB	04/19/24
C		60% PACKAGE SUBMITTAL	SLG	LJH	DVB	09/08/23
B		30% PACKAGE RE-SUBMITTAL	SLG	SLG	AJD	03/06/23
A		30% PACKAGE SUBMITTAL	SLG	SLG	AJD	09/21/22

DISPLAY INFORMATION

138KV ORTOLAN ACSR DISPLAYED AT 194F FINAL RS
0KV 7NO 8 ALUMNOWELD DISPLAYED AT 60F FINAL RS
COMM. (72 FIBER CNT) 130 DEGREES (F) MOT FINAL
30' GROUND CLEARANCE LINE WITH 1.5' BUFFER

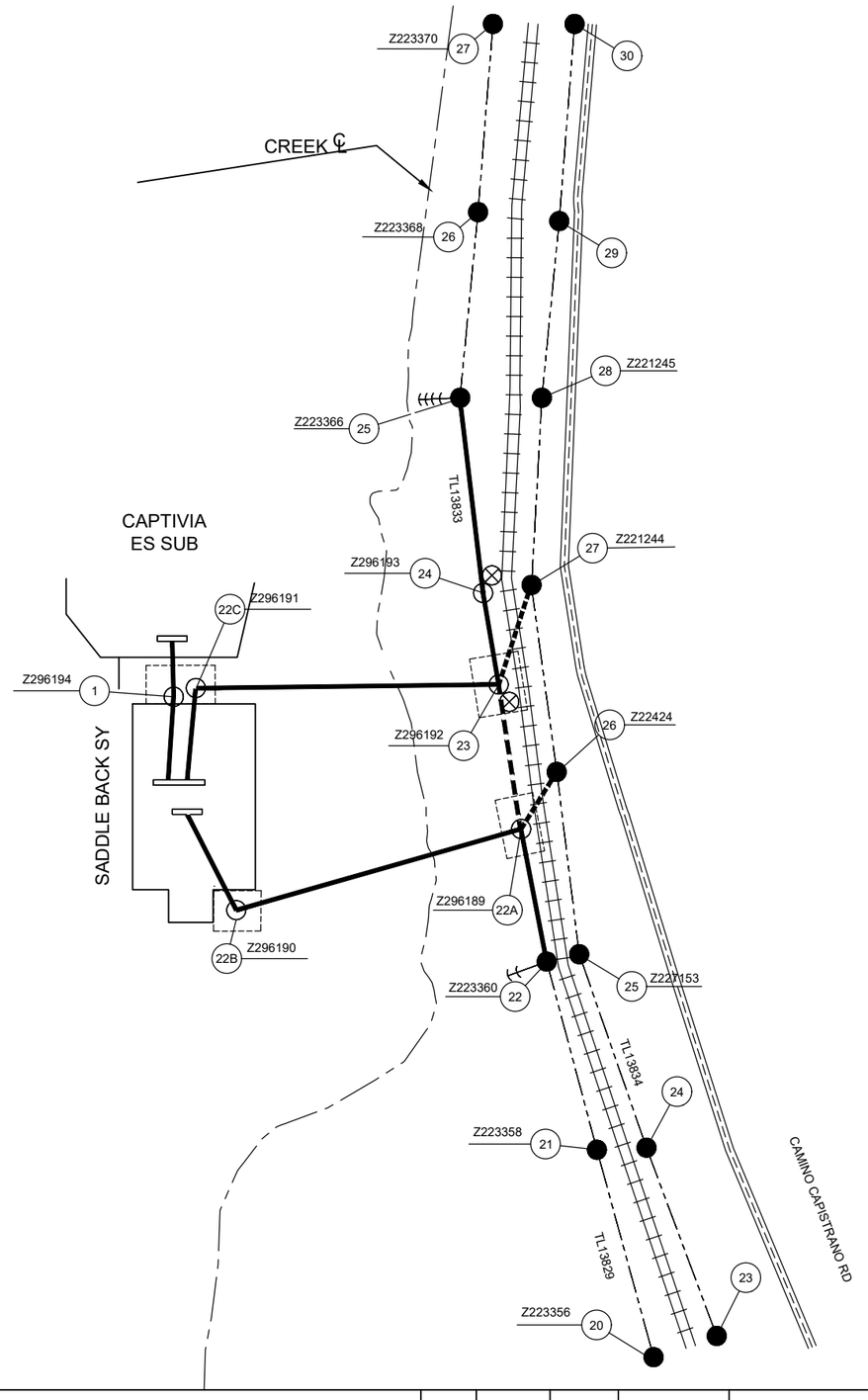
100.0 FT. HORIZ. SCALE
20.0 FT. VERT. SCALE
FOR 24 X 36 DRAWING ONLY

N

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
PLAN & PROFILE
ELECTRICAL CONSULTANTS, INC.
COMPASS ENERGY STORAGE

138KV SADDLEBACK SWITCHYARD
TL13854
SADDLEBACK SY TO CAPTIVIA SUB

3 OF 3 | 2021-2462.5120



LEGEND:

- NEW STEEL POLE
- EXISTING POLE
- EXISTING GUY AND ANCHOR
- SUBSTATION BAY
- REMOVE EXISTING POLE
- EXISTING OVERHEAD LINE
- PROPOSED OVERHEAD LINE
- PROPOSED ADSS LINE
- RR TRACKS
- STRINGING SITE
- SUBSTATION YARD
- ROAD
- CREEK CENTER LINE
- SHOO-FLY (IF NEEDED)

NOTES:
1. STRUCTURES ARE SHOWN HERE WITH RELATIVE POSITIONS. SURVEY TO STAKE ACTUAL STRUCTURE LOCATIONS FOR CONSTRUCTION.
2. EXISTING WIRES TO BE CUT BETWEEN EXISTING STRUCTURES 22 AND 23 AND RESTRUNG TO NEW STRUCTURES 22A AND 23

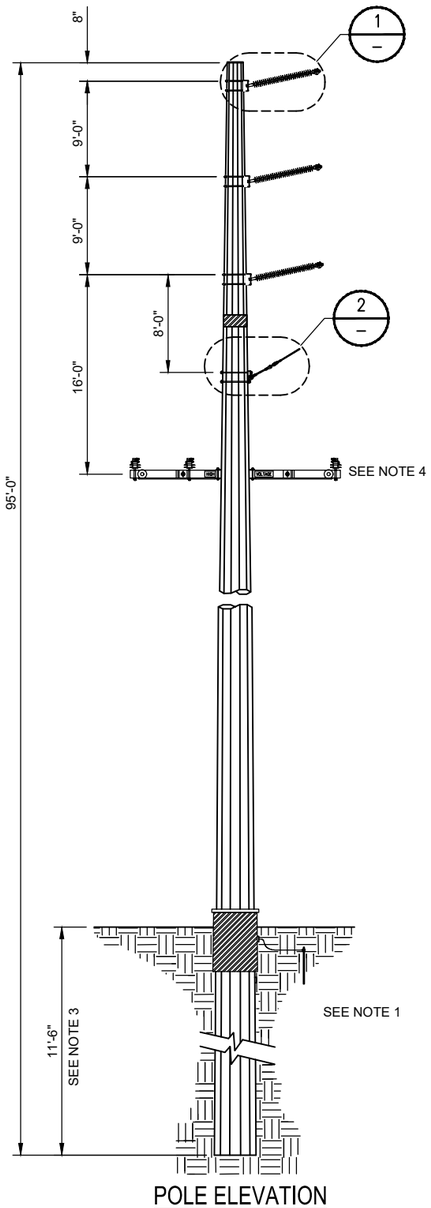
ISSUED FOR REVIEW

REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE
B			60% PACKAGE RE-SUBMITTAL	ATL	SLG	DVB	03/29/24
A			60% PACKAGE SUBMITTAL	GSR	SLG	DVB	09/08/23

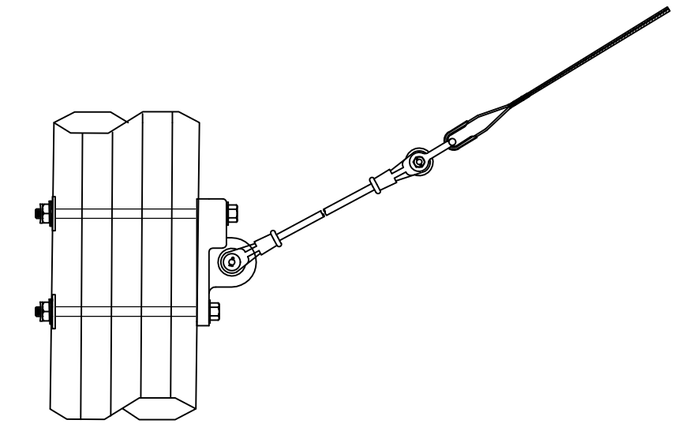
SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13829 & TL13833
COMPASS ENERGY STORAGE
ELECTRICAL CONSULTANTS, INC.
SCALE NONE
SHEET 1 OF 1

ALIGNMENT MAP
STRUCTURE 20 TO STRUCTURE 26

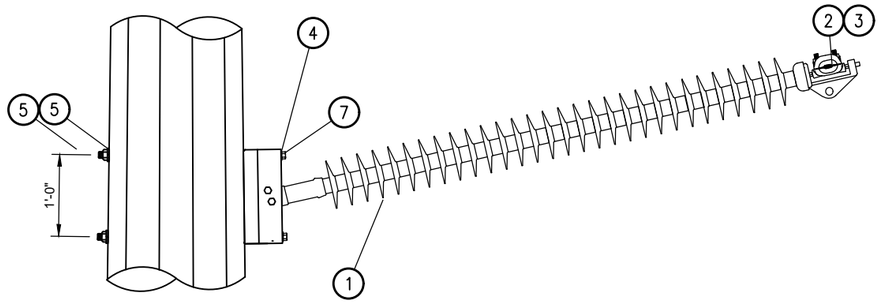
DRAWING NUMBER
2021-2462.5110



POLE ELEVATION



DETAIL
GUY ASSEMBLY
2



DETAIL
POST INSULATOR
1

MATERIAL LIST

ASSEM. (SDG&E STD)	ITEM	QTY.	SDG&E STOCK NO.	DESCRIPTION	MANUF.	PART NUMBER
CONDUCTOR	1	3	S429332	INSULATOR, POST, POLYMER, 64-69" LONG, BENDABLE GAIN BASE AND CLAMPTOP, 2600 LBS CANTILEVER BREAKING LOAD	HPS	P250055S1070
	2	3	S229792	CLAMP, POST INSULATOR, RANGE 1.5-2.0"	HPS	TSC-200
	3	3	S397760	GUARD, LINE, O.D. 1.713", LENGTH 53"	HPS	PL5158
	4	2	S153632	BOLT, 3/4" MACHINE, WITH NUT, 20" LONG	ANY	BY DESCRIPTION
	5	2	S153664	BOLT, 3/4" MACHINE, WITH NUT, 22" LONG	ANY	BY DESCRIPTION
	6	2	S153696	BOLT, 3/4" MACHINE, WITH NUT, 24" LONG	ANY	BY DESCRIPTION
	7	6	S799148	WASHER, SQUARE, FLAT, 2-1.4" X 2-1.4" X 3/16", 13/16" HOLE	ANY	BY DESCRIPTION
	8	6	S504576	NUT, M-F LOCK, 3/4" BOLT	ANY	BY DESCRIPTION
	9	6	S800256	WASHER, ROUND, FLAT, 3/4", 2" O.D.	ANY	BY DESCRIPTION
GUY (15305SW)	10	2	S153472	BOLT, MACH. 3/4" X 16" W/ NUT		
	11	1	S736600	THIMBLE		
	12	2	S504578	LOCKNUT, MF 3/4"		
	13	1	S542944	PLATE, POLE EYE (3/4" MOUNTING BOLT)		
	14	1	S636432	SHACKLE, ANCHOR 30,000 LBS		
	15	4	S799050	WASHER, SQ., FLAT, 2-1/4" X 2-1/4" X 3/16", 13/16" HOLE		
	16	2	S393280	GRIP, GUY 5/16"		
	17	50	S811328	WIRE, GUY 5/16"		
	18	1	S154848	BOLT, 5/8" X 12" MACHINE, WITH NUT		
	19	2	S797792	WASHER CURVED RIB 3X3 11/16" HOLE		
	20	1	S798560	WASHER, SPRING, DBL. COIL, 5/8" BOLT		
GUY INSULATORS (15308 & 15309)	21	1	S430912	INSULATOR STRAIN CLASS 54 - 2 6000 LBS. WORKING LOAD		
	22	2	S393280	GRIP, GUY 5/16"		
	23	1	S393216	GRIP, GUY 1/4"		
	24	1	S393248	GRIP, GUY 3/8"		
	1	1	S430882	INSULATOR, GUY STRAIN FIBERGLASS 10'-0"		

Z#: Z296193
SP#:
POLE CLASS: H3

NOTES:

1. REFER TO DRAWING 2021-2462.5500-06 FOR GROUNDING DETAILS.
2. 138 kV CONDUCTOR:
   1033.5KCMIL 45/7 ACSR/AW "ORTOLAN".
3. FOR DIRECT EMBED FOUNDATION DETAILS SEE 2021-2462.5730-XX.
4. STR 24 WILL HAVE DISTRIBUTION UNDER-BUILD, SEE DISTRIBUTION PLAN FOR DETAILS. ARM ROTATED FOR CLARITY.

REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE
B	N/A	N/A	60% PACKAGE RE-SUBMITTAL	EBM	SLG	DVB	04/19/24
A	N/A	N/A	ISSUED FOR 60% REVIEW	GSR	SLG	DVB	09/08/23

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13833
ELECTRICAL CONSULTANTS, INC.
COMPASS ENERGY STORAGE

SCALE NONE
SHEET 1 OF 1

FRAMING DRAWING
138 kV STEEL POLE SINGLE CIRCUIT TANGENT
ZPI SC STRUCTURE 24

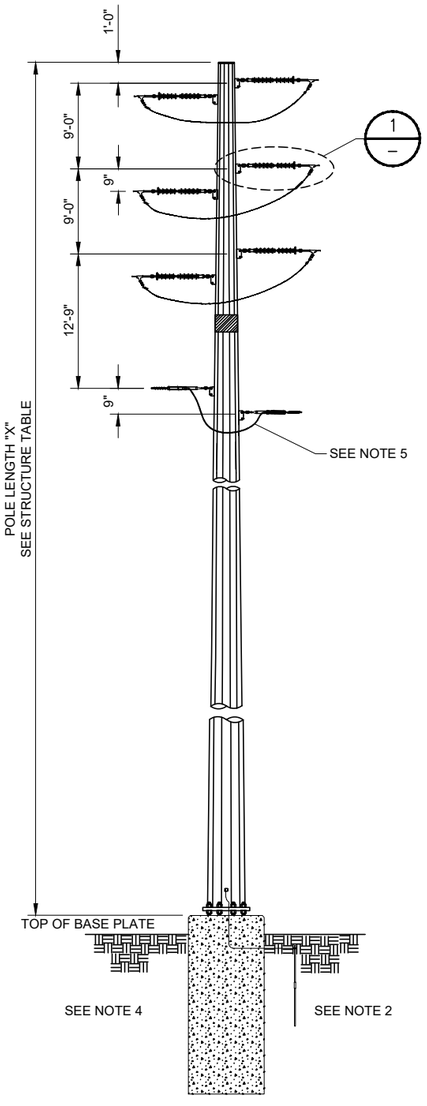
DRAWING NUMBER
2021-2462.5500-01

MATERIAL LIST

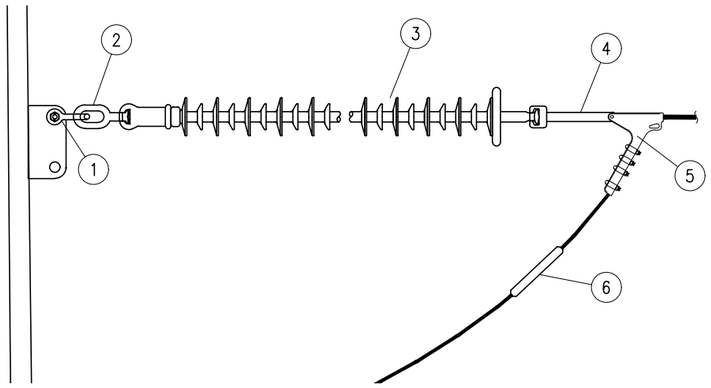
ASSEM. (SDG&E STD)	ITEM	QTY.	SDG&E STOCK NO.	DESCRIPTION	MANUF.	PART NUMBER
CONDUCTOR (19340)	1	6	S636432	SHACKLE, ANCHOR, 30K	MPS	ASH-55
	2	6	S337542	EYE, OVAL, BALL, 30K	MPS	ASBE-55
	3	6	S431396	INSULATOR, SUSPENSION, 138KV, W/ CORONA RING, SILICONE RUBBER, 25K SPECIFIED MECHANICAL LOAD, SECTION LENGTH 66"-68", BALL (HOT END) AND SOCKET END FITTINGS	NGK-LOCKE	251-SS550-SJ-08
	4	6	S337622	EYE, SOCKET, HOTLINE, EYE, 1-3/8" WIDE, 30K	MPS	SEHL-1375-6
	5	6	S230686	CLAMP, STRAIN, DEADEND, ALUM. ALLOY, RANGE 0.71"-1.318", 30K	MPS	ADE-2526
	6	3	S650338	SLEEVE, ALUM, JUMPER	AFL	JC13

STRUCTURE TABLE

STRUCTURE NAME	POLE LENGTH X	Z NUMBER	SP NUMBER
22A	65'-0"	Z296189	
23	90'-0"	Z296192	



POLE ELEVATION



DETAIL 1/- CONDUCTOR DEAD END (19340)

NOTES:

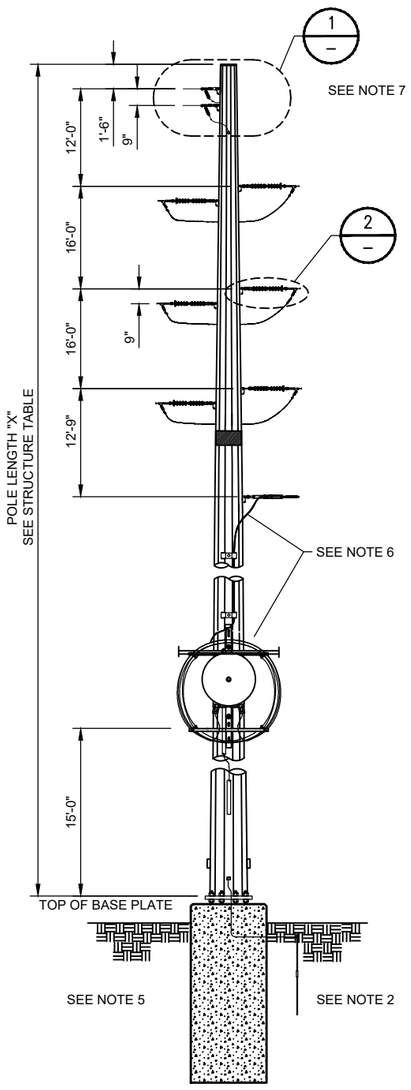
1. REFER TO DRAWING 2021-2462.5710-01 AND 04 FOR GENERAL ARRANGEMENT DRAWING.
2. REFER TO DRAWING 2021-2462.5500-05 FOR GROUNDING DETAILS.
3. 138 kV CONDUCTOR:
   1033.5KCMIL 45/7 ACSR/AW "ORTOLAN".
4. FOR DRILLING PIER FOUNDATION DETAILS SEE 2023-2462.5730-XX.
5. SEE SDG&E STD 230TR & 232TR FOR ADSS DEADEND & SPLICE ASSEMBLY RESPECTIVELY. ROTATED FOR CLARITY.
6. CORONA RING OPENINGS SHALL FACE DOWN TOWARD THE GROUND.

REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE
B	N/A	N/A	60% PACKAGE RE-SUBMITTAL	EBM	SLG	DVB	04/19/24
A	N/A	N/A	ISSUED FOR 60% REVIEW	GSR	SLG	DVB	09/08/23

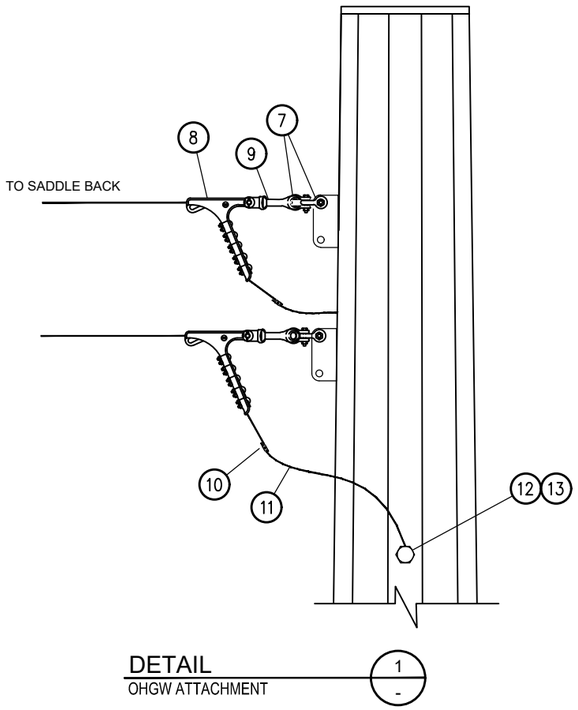
SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13829 & TL13833
COMPASS ENERGY STORAGE
ELECTRICAL CONSULTANTS, INC.
SCALE NONE
SHEET 1 OF 1

FRAMING DRAWING
138kV STEEL POLE SINGLE CIRCUIT DE Y SC STRUCTURE 22A & 23

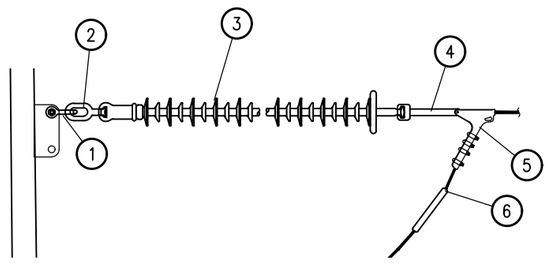
DRAWING NUMBER
2021-2462.5500-02



POLE ELEVATION



DETAIL 1 / - OHGW ATTACHMENT



DETAIL 2 / - CONDUCTOR DEAD END (19340)

MATERIAL LIST

ASSEM. (SDG&E STD)	ITEM	QTY.	SDG&E STOCK NO.	DESCRIPTION	MANUF.	PART NUMBER
CONDUCTOR (19340)	1	6	S636432	SHACKLE, ANCHOR, 30K	MPS	ASH-55
	2	6	S337542	EYE, OVAL, BALL, 30K	MPS	ASBE-55
	3	6	S431396	INSULATOR, SUSPENSION, 138KV, W/ CORONA RING, SILICONE RUBBER, 25K SPECIFIED MECHANICAL LOAD, SECTION LENGTH 66"-68", BALL (HOT END) AND SOCKET END FITTINGS	NGK-LOCKE	251-SS550-SJ-08
	4	6	S337622	EYE, SOCKET, HOTLINE, EYE, 1-3/8" WIDE, 30K	MPS	SEHL-1375-6
	5	6	S230686	CLAMP, STRAIN, DEADEND, ALUM. ALLOY, RANGE 0.71"-1.318", 30K	MPS	ADE-2526
	6	3	S650338	SLEEVE, ALUM, JUMPER	AFL	JC13
OHGW	7	4	S636436	SHACKLE, ANCHOR, 30K	MPS	ASH-55
	8	2	S999325	CLAMP, QUADRANT, OHGW, .18-.58, SOCKET FITTING	MPS	FQD-58-3-S
	9	2	MPS YCB65A	Y-CLEVIS, BALL, 30K, GALVANIZED STEEL	MPS	YCB-65A
	10	2	S256432	CONNECTOR, COMPRESSION	BRUNDY	YHO-150
	11	10	WIRE CU	WIRE, COPPER, #4 SOLID, SOFT DRAWN, LF	ANY	BY DESCRIPTION
	12	2	S730464	TERMINAL, GROUNDING LUG, 1/2" LONG STUD, BRNZ	BURNDY	GB29
	13	2	S505536	NUT, STANDARD HEX, 1/2", SS	ANY	BY DESCRIPTION

STRUCTURE TABLE

STRUCTURE NAME	POLE LENGTH X	Z NUMBER	SP NUMBER
22B	100'-0"	Z296190	
22C	95'-0"	Z296191	

NOTES:

1. REFER TO DRAWING 2021-2462.5710-02 AND 03 FOR GENERAL ARRANGEMENT DRAWING.
2. REFER TO DRAWING 2021-2462.5500-05 FOR GROUNDING DETAILS.
3. 138 kV CONDUCTOR:
   1033.5KCMIL 45/7 ACSR/AW "ORTOLAN".
4. SHIELD:
   7/#8 NO ALUMOWELD.
5. FOR DRILLING PIER FOUNDATION DETAILS SEE 2021-2462.5730-XX.
6. SEE SDG&E STD 230TR & 232TR FOR ADSS DEADEND & SPLICE ASSEMBLY RESPECTIVELY. ADSS RUNS UNDERGROUND TO SADDLEBACK SWITCHYARD.
7. SHIELD WIRE ATTACHMENTS WILL BE IN THE AHEAD SPAN ON STRUCTURE 22B AND BACK SPAN FOR 22C.
8. CORONA RING OPENINGS SHALL FACE DOWN TOWARD THE GROUND

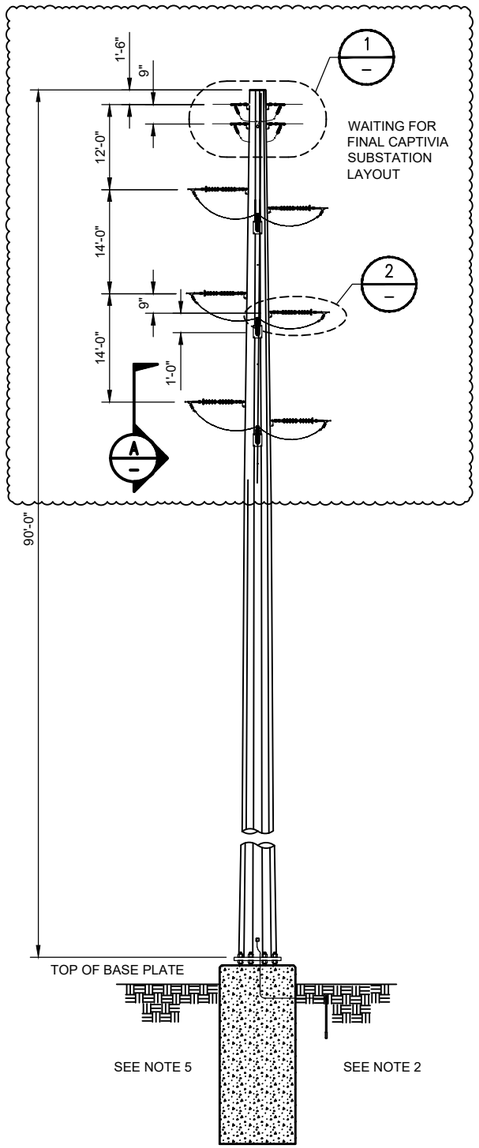
REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE
B	N/A	N/A	60% PACKAGE RE-SUBMITTAL	EBM	SLG	DVB	04/19/24
A	N/A	N/A	ISSUED FOR 60% REVIEW	GSR	SLG	DVB	09/08/23

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13829 & TL13833
ECI ELECTRICAL CONSULTANTS, INC.
COMPASS ENERGY STORAGE

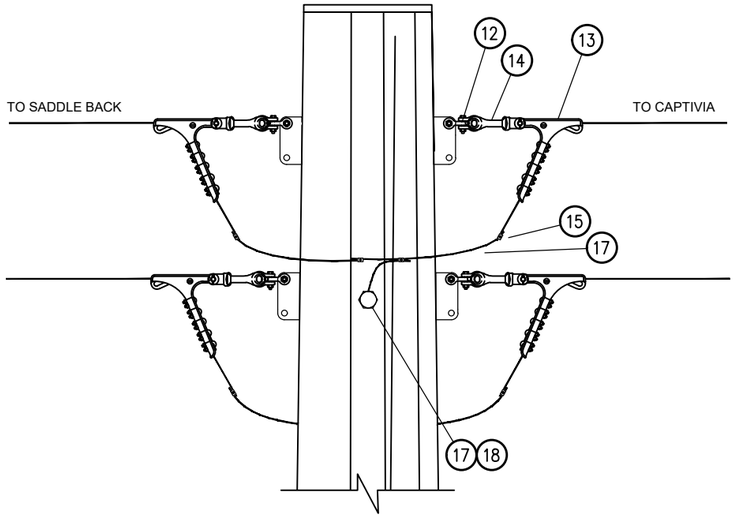
SCALE NONE | SHEET 1 OF 1

FRAMING DRAWING
138 kV STEEL POLE SINGLE CIRCUIT DEY W/LP SC (MOD) STRUCTURE 22B & C

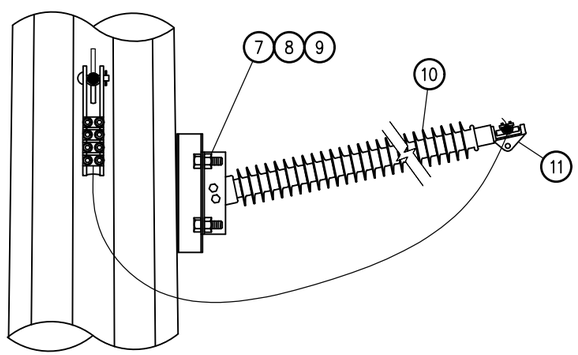
DRAWING NUMBER
2021-2462.5500-03



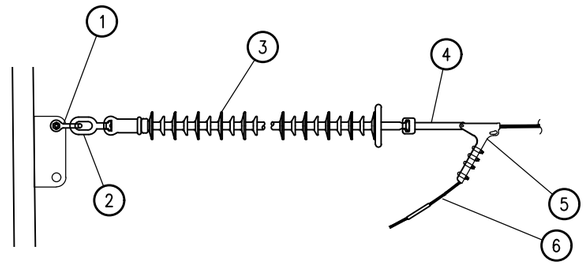
POLE ELEVATION



DETAIL 1 -
OHGW ATTACHMENT



SECTION A -
JUMPER POST (19365)



DETAIL 2 -
CONDUCTOR DEAD END (19340)

MATERIAL LIST

ASSEM. (SDG&E STD)	ITEM	QTY.	SDG&E STOCK NO.	DESCRIPTION	MANUF.	PART NUMBER
CONDUCTOR (19340)	1	6	S636438	SHACKLE, ANCHOR, 30K	MPS	ASH-55
	2	6	S337542	EYE, OVAL, BALL, 30K	MPS	ASBE-55
	3	6	S431396	INSULATOR, SUSPENSION, 138KV, W/ CORONA RING, SILICONE RUBBER, 25K SPECIFIED MECHANICAL LOAD, SECTION LENGTH 66"-68", BALL (HOT END) AND SOCKET END FITTINGS	NGK-LOCKE	251-SS550-SJ-08
	4	6	S337622	EYE, SOCKET, HOTLINE, EYE, 1-3/8" WIDE, 30K	MPS	SEHL-1375-6
	5	6	S230686	CLAMP, STRAIN, DEADEND, ALUM. ALLOY, RANGE 0.71"-1.318", 30K	MPS	ADE-2526
	6	3	S650338	SLEEVE, ALUM, JUMPER	AFL	JC13
JUMPER (19365)	7	12	S153794	BOLT, MACHINE 3/4" X 3" GALV. WITH NUT	ANY	BY DESCRIPTION
	8	12	S504578	NUT M/F LOCK, 3/4"	ANY	BY DESCRIPTION
	9	24	S800252	WASHER, ROUND 3/4" BOLT SIZE, 1/4" THICK., GALV	ANY	BY DESCRIPTION
	10	3	S428974	INSULATOR POST, POLYMER, 65"-70" LONG, BENDABLE BASE AND CLAMPTOP, 1360# MAXIMUM DESIGN CANTILEVER LOAD	HPS	P250055S1080
	11	3	S229792	CLAMP, POST INSULATOR, RANGE 1.5" TO 2.0"	HPS	TSC-200
OHGW	12	8	S636436	SHACKLE, ANCHOR, 30K	MPS	ASH-55
	13	4	MPS FQD583S	CLAMP, QUADRANT, OHGW, .18-.58, SOCKET FITTING	MPS	FQD-58-3-S
	14	4	MPS YCB65A	Y-CLEVIS, BALL, 30K, GALVANIZED STEEL	MPS	YCB-65A
	15	4	S256432	CONNECTOR, COMPRESSION	BRUNDY	YHO-150
	16	10	WIRE CU	WIRE, COPPER, #4 SOLID, SOFT DRAWN, LF	ANY	BY DESCRIPTION
	17	2	S730464	TERMINAL, GROUNDING LUG, 1/2" LONG STUD, BRNZ	BURNDY	GB29
	18	2	S505536	NUT, STANDARD HEX, 1/2", SS	ANY	BY DESCRIPTION

Z#: Z296194
SP#:

NOTES:

1. REFER TO DRAWING 2021-2462.5710-05 FOR GENERAL ARRANGEMENT DRAWINGS.
2. REFER TO DRAWING 2021-2462.5500-05 FOR GROUNDING DETAILS.
3. 138 kV CONDUCTOR:
   1033.5KCMIL 45/7 ACSR/AW "ORTOLAN".
4. SHIELD:
   7/#8 ALUMOWELD, GO-95 LIGHT.
5. FOR DRILLING PIER FOUNDATION DETAILS SEE 2021-2462.5730-XX.
6. CORONA RING OPENINGS SHALL FACE DOWN TOWARD THE GROUND.

REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE
B	N/A	N/A	60% PACKAGE RE-SUBMITTAL	EBM	SLG	DVB	04/19/24
A	N/A	N/A	ISSUED FOR 60% REVIEW	GSR	SLG	DVB	09/08/23

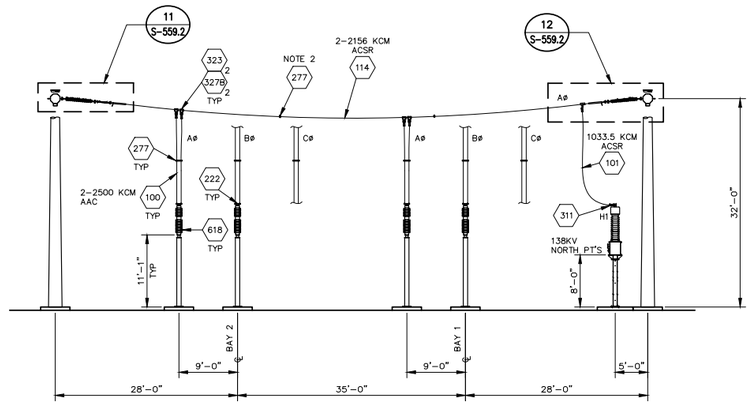
SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13854
ELECTRICAL CONSULTANTS, INC.
COMPASS ENERGY STORAGE
SCALE NONE
SHEET 1 OF 1

FRAMING DRAWING
138kV STEEL POLE SINGLE CIRCUIT DE YPI W/LP SC (MOD) STRUCTURE 1

DRAWING NUMBER
2021-2462.5500-04

Attachment 14

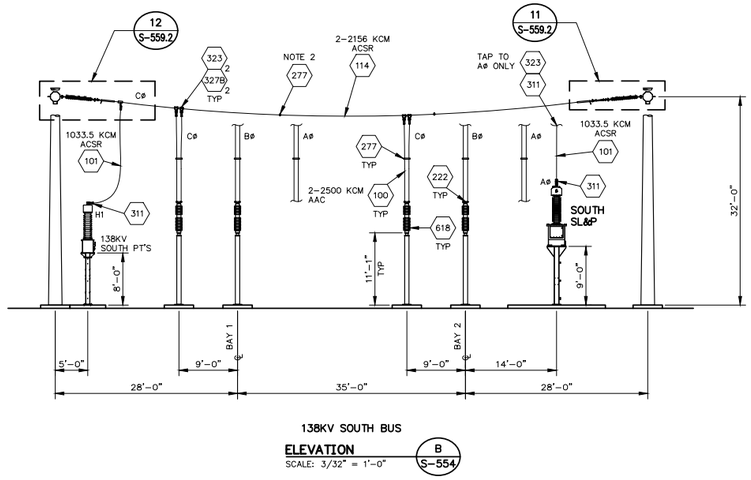
DR PD-2. SDG&E Switchyard Elevations



138KV NORTH BUS

ELEVATION (A, S-554)

SCALE: 3/32" = 1'-0"



138KV SOUTH BUS

ELEVATION (B, S-554)

SCALE: 3/32" = 1'-0"

GENERAL NOTES:

1. SEE BUS STRINGING DRAWING S-630 FOR STRAIN BUS INSTALLATION TENSION.
2. INSTALL 2-EA 8" SPACERS IN THE SPAN. THE DISTANCES BETWEEN THE TERMINATION POINTS, SPACERS, AND BETWEEN THE TWO ADJACENT SPACERS SHALL BE EQUAL.
3. THE DIMENSIONED RADIUS DEPICTS THE AVAILABILITY OF A MINIMUM OF 29" PHASE-GROUND CLEARANCE.
4. THE DIMENSIONED RADIUS DEPICTS THE AVAILABILITY OF A MINIMUM OF 31" PHASE-PHASE CLEARANCE.

REFERENCE DRAWINGS:

138KV STRUCTURAL BILL OF MATERIALS	S-50
138KV PLAN VIEW	S-554
138KV CONNECTION DETAILS	S-559, S-559.1, S-559.2
SAG AND TENSION TABLE	S-630

50% REVIEW SUBMITTAL

REVISIONS

NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:

SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA

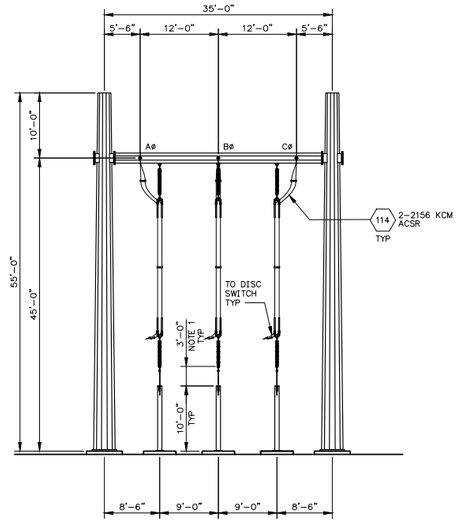
SADDLEBACK SWITCHYARD

138KV ELEVATION VIEWS

DRAWN BY:	REP	DATE: 3/29/23	SCALE: 3/32"=1'	W.O.:	5502169	REV:	0
CHECKED BY:	YR	DATE: 3/29/23	ECI				
APPROVED BY:		DATE:	INT W.O.: 5502169				
CAD NO.:	SDKS557	PLOT SCALE:	1 = 1				

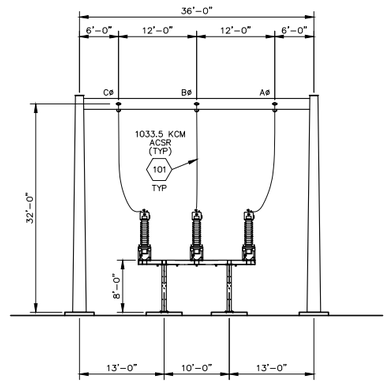
SDK-S-557

Sept 12, 2023 - 11:51:22



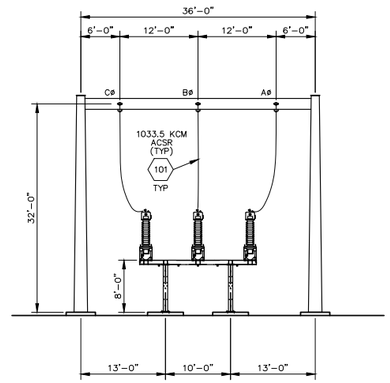
138KV LINE RISER

SECTION C S-554
SCALE: 3/32" = 1'-0"



138KV SOUTH BUS PT'S

SECTION D S-554
SCALE: 3/32" = 1'-0"



138KV NORTH BUS PT'S

SECTION E S-554
SCALE: 3/32" = 1'-0"

NOTES:

1. THE DIMENSION DEPICTS THE MINIMUM CLEARANCE FROM STEEL TO THE FIRST SKIRT OF THE SUSPENSION INSULATOR.

REFERENCE DRAWINGS:

138KV STRUCTURAL BILL OF MATERIALS	S-50
138KV PLAN VIEW	S-554
138KV CONNECTION DETAILS	S-559, S-559.1, S-559.2
SAG AND TENSION TABLE	S-630

50% REVIEW SUBMITTAL

REVISIONS

NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:

SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA

SADDLEBACK SWITCHYARD

138KV ELEVATION VIEWS

DRAWN BY:	REP	DATE: 3/29/23	SCALE: 3/32"=1'	W.O.:	5502169	REV:	0
CHECKED BY:	YR	DATE: 3/29/23	ECI				
APPROVED BY:		DATE:	INT W.O.: 5502169				
CAD NO.:	SDKS558	PLOT SCALE:	1 = 1				

SDK-S-558

Sept 12, 2023 - 11:51:22

Attachment 15

DR PD-6. Transmission Line Route Visual Simulation

Existing View of Project Site, looking Northeast.

Proposed View of Project Site, looking Northeast.

Attachment 16

DR TRANS-4. Traffic Count Sheets

Traffic Count Data

INTERSECTION TURNING MOVEMENT COUNTS

T020624

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, May 16, 24

LOCATION: Laguna Niguel
NORTH & SOUTH: Camarino Capistrano
EAST & WEST: Avery Pkwy

PROJECT #: SC4699
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

		NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
	LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	12	10	112	17	0	0	0	0	18	0	75	244	0	0	0	1	1
	7:15 AM	0	23	8	135	23	0	0	0	0	22	0	91	302	0	0	0	1	1
	7:30 AM	0	27	5	135	35	0	0	0	0	57	0	101	360	0	1	0	0	1
	7:45 AM	0	40	23	127	48	0	0	0	0	55	0	115	408	0	0	0	0	0
	8:00 AM	0	37	45	158	59	0	0	0	0	67	0	138	504	0	0	0	0	0
	8:15 AM	0	39	35	147	80	0	0	0	0	57	0	113	471	0	0	0	0	0
	8:30 AM	0	42	36	117	30	0	0	0	0	13	0	112	350	0	0	0	0	0
	8:45 AM	0	15	13	153	19	0	0	0	0	18	0	127	345	0	0	0	0	0
	VOLUMES	0	235	175	1,084	311	0	0	0	0	307	0	872	2,987	0	1	0	2	3
	APPROACH %	0%	57%	43%	78%	22%	0%	0%	0%	0%	26%	0%	74%						
	APP/DEPART	410	/	1,108	1,396	/	618	0	/	1,261	1,181	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	143	108	567	222	0	0	0	0	236	0	467	1,744	0	1	0	0	
	APPROACH %	0%	57%	43%	72%	28%	0%	0%	0%	0%	34%	0%	66%						
	PEAK HR FACTOR		0.765			0.870			0.000			0.857		0.865					
	APP/DEPART	251	/	611	790	/	458	0	/	675	703	/	0	0					
PM	4:00 PM	0	44	34	126	32	0	0	0	0	31	0	166	433	0	0	0	0	0
	4:15 PM	0	30	22	118	31	0	0	0	0	35	0	192	428	0	0	0	1	1
	4:30 PM	0	31	26	122	23	0	0	0	0	22	0	162	386	0	0	0	0	0
	4:45 PM	0	39	33	152	30	0	0	0	0	24	0	141	419	0	0	0	0	0
	5:00 PM	0	32	21	175	28	0	0	0	0	24	0	151	431	0	0	0	1	1
	5:15 PM	0	33	32	130	33	0	0	0	0	32	0	168	428	0	0	0	0	0
	5:30 PM	0	35	21	154	25	0	0	0	0	24	0	144	403	0	0	0	1	1
	5:45 PM	0	33	22	146	27	0	0	0	0	21	0	149	398	0	0	0	0	0
	VOLUMES	0	277	211	1,123	229	0	0	0	0	213	0	1,273	3,329	0	0	0	3	3
	APPROACH %	0%	57%	43%	83%	17%	0%	0%	0%	0%	14%	0%	85%						
	APP/DEPART	488	/	1,550	1,352	/	442	0	/	1,337	1,489	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	139	107	611	116	0	0	0	0	104	0	604	1,683	0	0	0	2	
	APPROACH %	0%	57%	43%	84%	16%	0%	0%	0%	0%	15%	0%	85%						
	PEAK HR FACTOR		0.854			0.895			0.000			0.888		0.974					
	APP/DEPART	246	/	743	727	/	220	0	/	720	710	/	0	0					

Camarino Capistrano

NORTH LEG

Avery Pkwy — WEST LEG — EAST LEG — Avery Pkwy

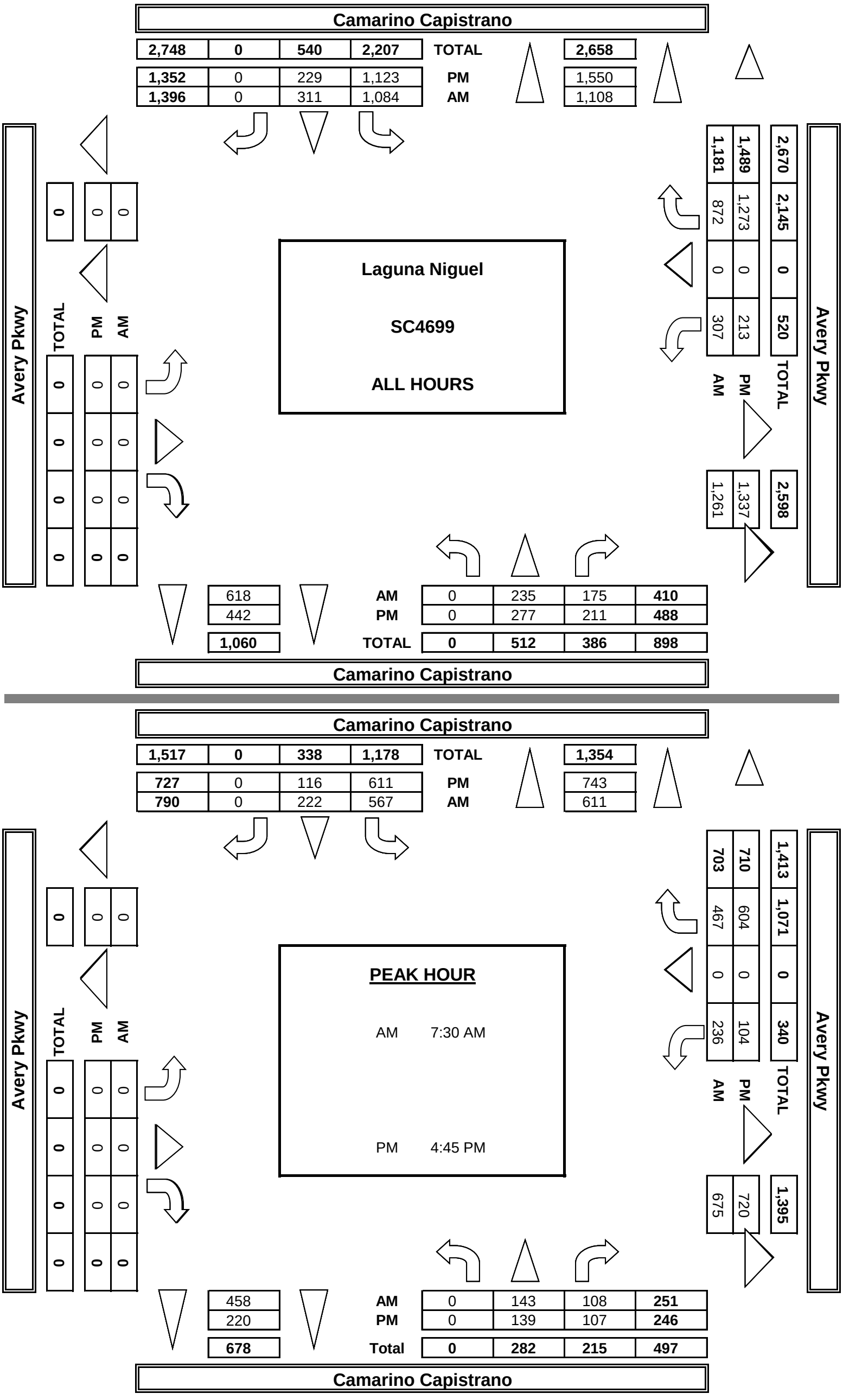
SOUTH LEG

Camarino Capistrano

		ALL PED + BIKE & SCOOTER					PEDESTRIAN CROSSINGS					BICYCLE & SCOOTER CROSSINGS				
		N LEG	S LEG	E LEG	W LEG	TOTAL	N LEG	S LEG	E LEG	W LEG	TOTAL	NL	SL	EL	WL	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
	7:45 AM	0	0	3	0	3	0	0	1	0	1	0	0	2	0	2
	8:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
	8:15 AM	1	0	1	1	3	0	0	0	0	0	1	0	1	1	3
	8:30 AM	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
	8:45 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	TOTAL	1	0	8	5	14	0	0	4	0	4	1	0	4	5	10
PM	4:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2
	4:15 PM	0	2	0	2	4	0	0	0	0	0	0	2	0	2	4
	4:30 PM	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1
	4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	2	7	3	12	0	0	2	0	2	0	2	5	3	10

AimTD LLC

TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

	NOTES:								
PCE Adjusted	Class	1	2	3	4	5	6		
	Factor	1	1.5	2	3	2	2		

AM / PM / MD / OTHER / OTHER

◄ W ▲ N S ▼ E ►

	NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
AM 7:00 AM	0	13	12	120	18	0	0	0	0	19	0	80	261					0
7:15 AM	0	24	9	139	24	0	0	0	0	26	0	93	315					0
7:30 AM	0	28	5	140	38	0	0	0	0	59	0	105	373					0
7:45 AM	0	41	26	130	49	0	0	0	0	60	0	117	422					0
8:00 AM	0	38	46	166	60	0	0	0	0	69	0	144	522					0
8:15 AM	0	39	35	153	81	0	0	0	0	64	0	118	489					0
8:30 AM	0	44	39	125	32	0	0	0	0	17	0	114	370					0
8:45 AM	0	18	15	159	20	0	0	0	0	20	0	134	364					0
VOLUMES	0	243	185	1,131	320	0	0	0	0	333	0	903	3,114	0	0	0	0	0
APPROACH %	0%	57%	43%	78%	22%	0%	0%	0%	0%	27%	0%	73%						
APP/DEPART	428	/	1,146	1,451	/	652	0	/	1,316	1,236	/	0	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	0	145	111	589	227	0	0	0	0	251	0	483	1,805					
APPROACH %	0%	57%	43%	72%	28%	0%	0%	0%	0%	34%	0%	66%						
PEAK HR FACTOR		0.766			0.873			0.000			0.863		0.865					
APP/DEPART	256	/	628	815	/	478	0	/	700	734	/	0	0					
PM 4:00 PM	0	45	34	132	34	0	0	0	0	32	0	171	447					0
4:15 PM	0	30	22	123	32	0	0	0	0	35	0	201	442					0
4:30 PM	0	32	26	125	25	0	0	0	0	23	0	169	399					0
4:45 PM	0	39	34	158	32	0	0	0	0	27	0	142	432					0
5:00 PM	0	33	21	177	30	0	0	0	0	25	0	154	438					0
5:15 PM	0	35	34	135	34	0	0	0	0	32	0	169	438					0
5:30 PM	0	36	21	155	26	0	0	0	0	24	0	145	406					0
5:45 PM	0	34	24	146	28	0	0	0	0	22	0	151	403					0
VOLUMES	0	282	215	1,150	238	0	0	0	0	219	0	1,300	3,403	0	0	0	0	0
APPROACH %	0%	57%	43%	83%	17%	0%	0%	0%	0%	14%	0%	86%						
APP/DEPART	497	/	1,582	1,388	/	457	0	/	1,365	1,519	/	0	0					
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	142	110	624	121	0	0	0	0	108	0	609	1,713					
APPROACH %	0%	56%	44%	84%	16%	0%	0%	0%	0%	15%	0%	85%						
PEAK HR FACTOR		0.861			0.904			0.000			0.892		0.978					
APP/DEPART	252	/	751	745	/	229	0	/	734	717	/	0	0					

Camarino Capistrano

NORTH SIDE

Avery Pkwy WEST SIDE EAST SIDE **Avery Pkwy**

SOUTH SIDE

Camarino Capistrano

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
	LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	11	6	105	16	0	0	0	0	16	0	66	220	0	0	0	1	1
	7:15 AM	0	21	7	127	21	0	0	0	0	17	0	87	280	0	0	0	1	1
	7:30 AM	0	26	5	128	33	0	0	0	0	55	0	95	342	0	1	0	0	1
	7:45 AM	0	39	19	121	47	0	0	0	0	51	0	111	388	0	0	0	0	0
	8:00 AM	0	35	44	145	58	0	0	0	0	66	0	127	475	0	0	0	0	0
	8:15 AM	0	39	35	136	78	0	0	0	0	53	0	105	446	0	0	0	0	0
	8:30 AM	0	39	32	104	27	0	0	0	0	11	0	108	321	0	0	0	0	0
	8:45 AM	0	11	10	142	17	0	0	0	0	15	0	115	310	0	0	0	0	0
	VOLUMES	0	221	158	1,008	297	0	0	0	0	284	0	814	2,785	0	1	0	2	3
	APPROACH %	0%	58%	42%	77%	23%	0%	0%	0%	0%	26%	0%	74%						
	APP/DEPART	379	/	1,036	1,306	/	581	0	/	1,168	1,100	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	139	103	530	216	0	0	0	0	225	0	438	1,652	0	1	0	0	
	APPROACH %	0%	57%	43%	71%	29%	0%	0%	0%	0%	34%	0%	66%						
	PEAK HR FACTOR		0.766			0.873			0.000			0.859		0.869					
	APP/DEPART	242	/	578	747	/	441	0	/	633	663	/	0	0					
PM	4:00 PM	0	43	34	117	29	0	0	0	0	30	0	158	411	0	0	0	0	0
	4:15 PM	0	30	22	112	30	0	0	0	0	35	0	180	409	0	0	0	1	1
	4:30 PM	0	30	26	117	20	0	0	0	0	21	0	151	365	0	0	0	0	0
	4:45 PM	0	39	31	141	27	0	0	0	0	21	0	139	398	0	0	0	0	0
	5:00 PM	0	31	21	172	26	0	0	0	0	22	0	146	418	0	0	0	1	1
	5:15 PM	0	29	29	124	32	0	0	0	0	32	0	166	412	0	0	0	0	0
	5:30 PM	0	34	21	152	23	0	0	0	0	24	0	143	397	0	0	0	1	1
	5:45 PM	0	32	19	146	26	0	0	0	0	20	0	146	389	0	0	0	0	0
	VOLUMES	0	268	203	1,081	213	0	0	0	0	205	0	1,229	3,202	0	0	0	3	3
	APPROACH %	0%	57%	43%	84%	16%	0%	0%	0%	0%	14%	0%	86%						
	APP/DEPART	471	/	1,497	1,294	/	418	0	/	1,287	1,437	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	133	102	589	108	0	0	0	0	99	0	594	1,627	0	0	0	2	
	APPROACH %	0%	57%	43%	85%	15%	0%	0%	0%	0%	14%	0%	85%						
	PEAK HR FACTOR		0.839			0.880			0.000			0.878		0.971					
	APP/DEPART	235	/	727	697	/	207	0	/	693	695	/	0	0					

Camarino Capistrano

NORTH SIDE

Avery Pkwy WEST SIDE EAST SIDE **Avery Pkwy**

SOUTH SIDE

Camarino Capistrano

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

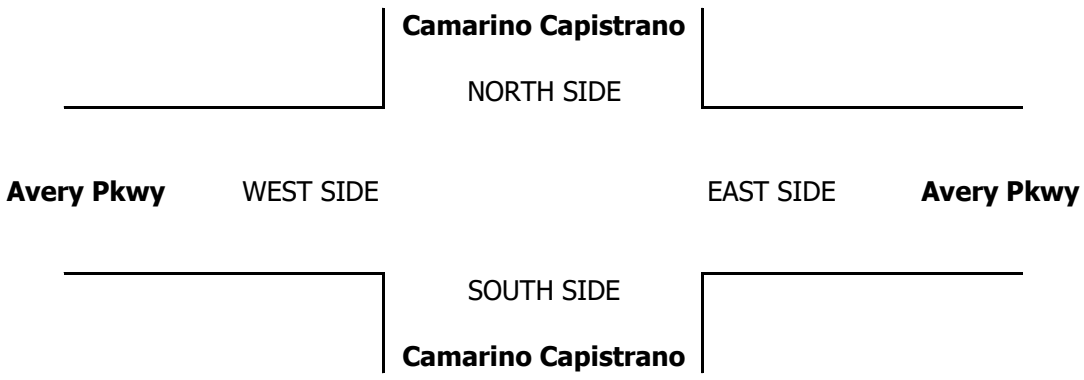
DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	1	4	4	1	0	0	0	0	2	0	8	20	0	0	0	0	0
7:15 AM	0	2	1	8	2	0	0	0	0	4	0	4	21	0	0	0	0	0
7:30 AM	0	1	0	6	1	0	0	0	0	1	0	5	14	0	0	0	0	0
7:45 AM	0	1	3	6	1	0	0	0	0	2	0	4	17	0	0	0	0	0
8:00 AM	0	2	1	12	1	0	0	0	0	0	0	11	27	0	0	0	0	0
8:15 AM	0	0	0	11	2	0	0	0	0	1	0	7	21	0	0	0	0	0
8:30 AM	0	3	3	12	3	0	0	0	0	0	0	4	25	0	0	0	0	0
8:45 AM	0	3	2	11	2	0	0	0	0	3	0	11	32	0	0	0	0	0
AM VOLUMES	0	13	14	70	13	0	0	0	0	13	0	54	177	0	0	0	0	0
AM APPROACH %	0%	48%	52%	84%	16%	0%	0%	0%	0%	19%	0%	81%						
AM APP/DEPART	27	/	67	83	/	26	0	/	84	67	/	0	0					
AM BEGIN PEAK HR		7:30 AM																
AM VOLUMES	0	4	4	35	5	0	0	0	0	4	0	27	79	0	0	0	0	
AM APPROACH %	0%	50%	50%	88%	13%	0%	0%	0%	0%	13%	0%	87%						
AM PEAK HR FACTOR		0.500			0.769			0.000			0.705		0.731					
AM APP/DEPART	8	/	31	40	/	9	0	/	39	31	/	0	0					
4:00 PM	0	1	0	8	2	0	0	0	0	1	0	6	18	0	0	0	0	0
4:15 PM	0	0	0	5	1	0	0	0	0	0	0	9	15	0	0	0	0	0
4:30 PM	0	1	0	4	3	0	0	0	0	1	0	10	19	0	0	0	0	0
4:45 PM	0	0	2	10	3	0	0	0	0	2	0	2	19	0	0	0	0	0
5:00 PM	0	1	0	3	1	0	0	0	0	2	0	5	12	0	0	0	0	0
5:15 PM	0	4	3	5	1	0	0	0	0	0	0	2	15	0	0	0	0	0
5:30 PM	0	1	0	2	2	0	0	0	0	0	0	1	6	0	0	0	0	0
5:45 PM	0	1	3	0	1	0	0	0	0	1	0	3	9	0	0	0	0	0
PM VOLUMES	0	9	8	37	14	0	0	0	0	7	0	38	113	0	0	0	0	0
PM APPROACH %	0%	53%	47%	73%	27%	0%	0%	0%	0%	16%	0%	84%						
PM APP/DEPART	17	/	47	51	/	21	0	/	45	45	/	0	0					
PM BEGIN PEAK HR		4:45 PM																
PM VOLUMES	0	6	5	20	7	0	0	0	0	4	0	10	52	0	0	0	0	
PM APPROACH %	0%	55%	45%	74%	26%	0%	0%	0%	0%	29%	0%	71%						
PM PEAK HR FACTOR		0.393			0.519			0.000			0.500		0.684					
PM APP/DEPART	11	/	16	27	/	11	0	/	25	14	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

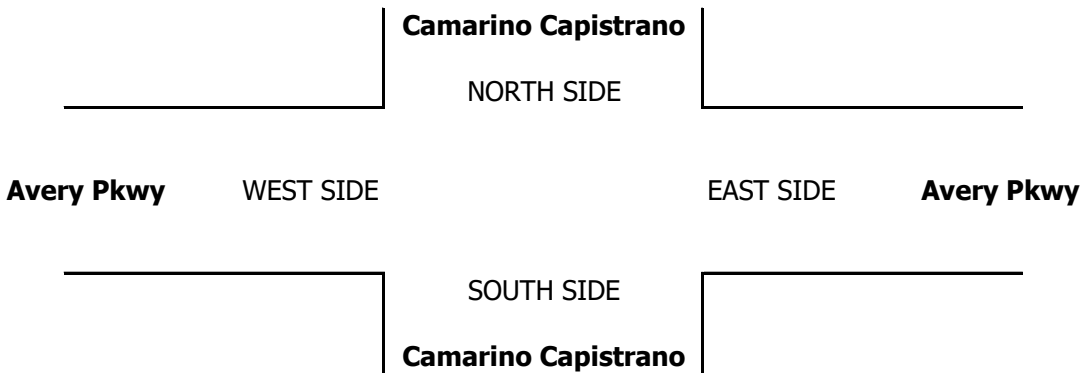
DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 3:	NOTES:
3-AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
VOLUMES	0	0	1	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
APP/DEPART	1	/	2	0	/	0	0	/	1	2	/	0	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250					
APP/DEPART	1	/	0	0	/	0	0	/	1	0	/	0	0					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	2	3	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	1	2	0	0	0	0	0	0	2	5	0	0	0	0	0
APPROACH %	0%	0%	0%	33%	67%	0%	0%	0%	0%	0%	0%	100%						
APP/DEPART	0	/	2	3	/	2	0	/	1	2	/	0	0					
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	
APPROACH %	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.500			0.000			0.000		0.500					
APP/DEPART	0	/	0	2	/	1	0	/	1	0	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

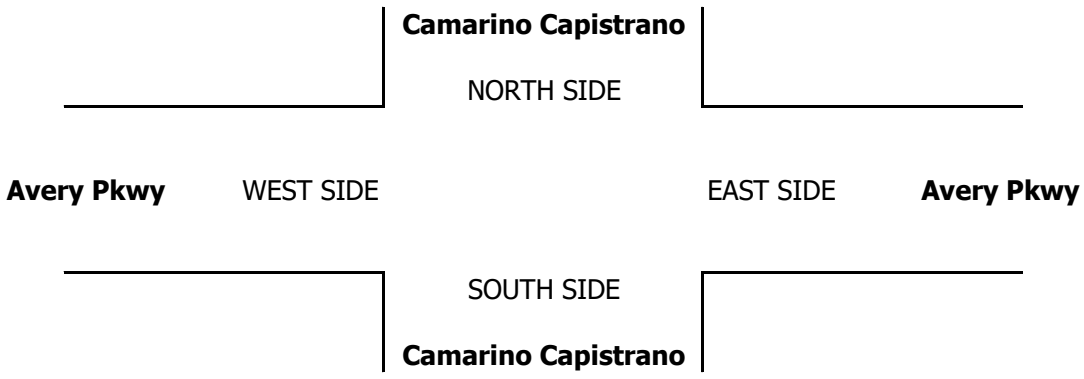
DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
	LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	7:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
	8:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	0	0	2	0	0	3	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	6	1	0	0	0	0	9	0	0	16	0	0	0	0	0
	APPROACH %	0%	0%	0%	86%	14%	0%	0%	0%	0%	100%	0%	0%						
	APP/DEPART	0	/	0	7	/	10	0	/	6	9	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	2	1	0	0	0	0	6	0	0	9	0	0	0	0	
	APPROACH %	0%	0%	0%	67%	33%	0%	0%	0%	0%	100%	0%	0%						
	PEAK HR FACTOR		0.000			0.375			0.000			0.500		0.750					
	APP/DEPART	0	/	0	3	/	7	0	/	2	6	/	0	0					
PM	4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	3	0	0	0	0	0	1	0	2	6	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	33%	0%	67%						
	APP/DEPART	0	/	2	3	/	1	0	/	3	3	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%						
	PEAK HR FACTOR		0.000			0.250			0.000			0.250		0.500					
	APP/DEPART	0	/	0	1	/	1	0	/	1	1	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
AM																		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM																		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	0	1	/	0	0	/	1	0	/	0	0					
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

Camarino Capistrano

NORTH SIDE

Avery Pkwy WEST SIDE EAST SIDE **Avery Pkwy**

SOUTH SIDE

Camarino Capistrano

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
5/16/24	LOCATION:	Laguna Niguel	PROJECT #:	SC4699
THURSDAY	NORTH & SOUTH:	Camarino Capistrano	LOCATION #:	2
	EAST & WEST:	Avery Pkwy	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

AM / PM / MD / OTHER / OTHER

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	NORTHBOUND Camarino Capistrano			SOUTHBOUND Camarino Capistrano			EASTBOUND Avery Pkwy			WESTBOUND Avery Pkwy				U-TURNS				
LANES:	NL X	NT 1	NR 1	SL 2	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 2	TOTAL	NB	SB	EB	WB	TTL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
VOLUMES	0	1	2	0	0	0	0	0	0	1	0	2	6	0	0	0	0	0
APPROACH %	0%	33%	67%	0%	0%	0%	0%	0%	0%	33%	0%	67%						
APP/DEPART	3	/	3	0	/	1	0	/	2	3	/	0	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	0	0	0	0	0	0	0	0	0	1	0	2	3	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	67%						
PEAK HR FACTOR		0.000			0.000			0.000			0.375		0.375					
APP/DEPART	0	/	2	0	/	1	0	/	0	3	/	0	0					
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%						
APP/DEPART	0	/	2	0	/	0	0	/	0	2	/	0	0					
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

Camarino Capistrano

NORTH SIDE

Avery Pkwy WEST SIDE EAST SIDE **Avery Pkwy**

SOUTH SIDE

Camarino Capistrano

LOS Worksheets

Compass BESS

Vistro File: P:\...\Compass_BESS.vistro
Report File: P:\...\EX AM.pdf

Scenario 1 Existing
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	ICU 1	SB Left	0.603	-	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	143	108	567	222	236	467
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.93	0.35	0.45	2.97	0.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	108	567	222	236	467
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	31	164	64	68	135
Total Analysis Volume [veh/h]	165	125	655	257	273	540
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	80
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.08	0.20	0.16	0.17	0.17
Intersection LOS	B					
Intersection V/C	0.603					

Compass BESS

Vistro File: P:\...\Compass_BESS_AM.vistro
Report File: P:\...\EX AM_HCM.pdf

Scenario 3 Existing-HCM
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	HCM 6th Edition	WB Right	0.588	27.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	143	108	567	222	236	467
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.93	0.35	0.45	2.97	0.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	108	567	222	236	467
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	31	164	64	68	135
Total Analysis Volume [veh/h]	165	125	655	257	273	540
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	22	0	13	39	13	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	26	0	29	55	25	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	19	53	19	19
g / C, Green / Cycle	0.37	0.37	0.24	0.66	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.21	0.15	0.17	0.21
s, saturation flow rate [veh/h]	1710	1443	3154	1704	1590	2564
c, Capacity [veh/h]	638	539	755	1129	377	608
d1, Uniform Delay [s]	17.35	17.16	29.16	5.35	28.05	29.44
k, delay calibration	0.50	0.50	0.11	0.50	0.18	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.98	1.01	3.21	0.47	4.43	4.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.23	0.87	0.23	0.72	0.89
d, Delay for Lane Group [s/veh]	18.33	18.17	32.36	5.82	32.49	34.11
Lane Group LOS	B	B	C	A	C	C
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.19	1.66	6.12	1.54	5.09	5.20
50th-Percentile Queue Length [ft/ln]	54.79	41.57	152.98	38.58	127.31	129.92
95th-Percentile Queue Length [veh/ln]	3.95	2.99	10.18	2.78	8.79	8.94
95th-Percentile Queue Length [ft/ln]	98.63	74.83	254.40	69.44	219.83	223.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.33	18.17	32.36	5.82	32.49	34.11
Movement LOS	B	B	C	A	C	C
d_A, Approach Delay [s/veh]	18.26		24.88		33.56	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	27.43					
Intersection LOS	C					
Intersection V/C	0.588					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	31.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	2.606
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	551	1276	526
d_b, Bicycle Delay [s]	20.99	5.23	21.72
l_b,int, Bicycle LOS Score for Intersection	2.038	3.064	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Compass BESS

Vistro File: P:\...\Compass_BESS_PM.vistro
Report File: P:\...\EX PM.pdf

Scenario 1 Existing
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	ICU 1	SB Left	0.562	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	139	107	611	116	104	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.33	0.86	0.96	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	107	611	116	104	604
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	27	157	30	27	155
Total Analysis Volume [veh/h]	143	110	627	119	107	620
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	120
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.20	0.07	0.07	0.19
Intersection LOS	A					
Intersection V/C	0.562					

Compass BESS

Vistro File: P:\...\Compass_BESS_PM.vistro
Report File: P:\...\EX PM_HCM.pdf

Scenario 3 Existing_HCM
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	HCM 6th Edition	SB Left	0.571	41.1	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	139	107	611	116	104	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.33	0.86	0.96	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	107	611	116	104	604
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	27	157	30	27	155
Total Analysis Volume [veh/h]	143	110	627	119	107	620
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	22	0	23	49	23	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	26	0	47	73	47	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	49	49	27	80	32	32
g / C, Green / Cycle	0.41	0.41	0.22	0.67	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.20	0.07	0.07	0.24
s, saturation flow rate [veh/h]	1710	1454	3155	1698	1616	2573
c, Capacity [veh/h]	704	599	705	1135	428	681
d1, Uniform Delay [s]	22.62	22.43	45.11	7.08	34.70	42.69
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.68	4.12	0.19	0.30	5.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.18	0.89	0.10	0.25	0.91
d, Delay for Lane Group [s/veh]	23.27	23.10	49.23	7.26	35.00	47.84
Lane Group LOS	C	C	D	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	2.10	9.39	1.10	2.51	9.31
50th-Percentile Queue Length [ft/ln]	68.47	52.60	234.79	27.60	62.77	232.69
95th-Percentile Queue Length [veh/ln]	4.93	3.79	14.42	1.99	4.52	14.31
95th-Percentile Queue Length [ft/ln]	123.24	94.68	360.44	49.68	112.98	357.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.27	23.10	49.23	7.26	35.00	47.84
Movement LOS	C	C	D	A	C	D
d_A, Approach Delay [s/veh]	23.20		42.53		45.95	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	41.14					
Intersection LOS	D					
Intersection V/C	0.571					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.30
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	2.601
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	1151	717
d_b, Bicycle Delay [s]	39.98	10.81	24.67
l_b,int, Bicycle LOS Score for Intersection	1.977	2.791	1.560
Bicycle LOS	A	C	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Compass BESS

Vistro File: P:\...\Compass_BESS.vistro
Report File: P:\...\EX+P AM.pdf

Scenario 2 Existing plus Project
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	ICU 1	WB Left	0.687	-	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	143	108	567	222	352	467
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.93	0.35	0.45	7.67	0.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	108	567	222	352	467
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	31	164	64	102	135
Total Analysis Volume [veh/h]	165	125	655	257	407	540
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	80
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.08	0.20	0.16	0.25	0.17
Intersection LOS	B					
Intersection V/C	0.687					

Compass BESS

Vistro File: P:\...\Compass_BESS_AM.vistro
Report File: P:\...\EX+P AM_HCM.pdf

Scenario 4 Existing plus Project-HCM
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	HCM 6th Edition	WB Left	0.652	35.2	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	143	108	567	222	352	467
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.93	0.35	0.45	7.67	0.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	108	567	222	352	467
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	31	164	64	102	135
Total Analysis Volume [veh/h]	165	125	655	257	407	540
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	22	0	13	39	13	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	26	0	29	55	25	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	19	51	21	21
g / C, Green / Cycle	0.35	0.35	0.24	0.64	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.21	0.15	0.27	0.21
s, saturation flow rate [veh/h]	1710	1443	3154	1704	1530	2564
c, Capacity [veh/h]	596	503	755	1087	401	671
d1, Uniform Delay [s]	18.75	18.55	29.16	6.16	29.47	27.56
k, delay calibration	0.50	0.50	0.11	0.50	0.44	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	1.18	3.21	0.51	46.29	2.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.25	0.87	0.24	1.02	0.80
d, Delay for Lane Group [s/veh]	19.90	19.73	32.36	6.67	75.76	29.88
Lane Group LOS	B	B	C	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.31	1.75	6.12	1.72	12.47	4.83
50th-Percentile Queue Length [ft/ln]	57.71	43.79	152.98	42.89	311.85	120.81
95th-Percentile Queue Length [veh/ln]	4.15	3.15	10.18	3.09	18.44	8.44
95th-Percentile Queue Length [ft/ln]	103.87	78.83	254.40	77.21	460.94	210.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.90	19.73	32.36	6.67	75.76	29.88
Movement LOS	B	B	C	A	F	C
d_A, Approach Delay [s/veh]	19.83		25.12		49.60	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	35.19					
Intersection LOS	D					
Intersection V/C	0.652					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	31.47
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	2.632
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	551	1276	526
d_b, Bicycle Delay [s]	20.99	5.23	21.72
l_b,int, Bicycle LOS Score for Intersection	2.038	3.064	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Compass BESS

Vistro File: P:\...\Compass_BESS_PM.vistro
Report File: P:\...\EX+P PM.pdf

Scenario 2 Existing plus Project
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	ICU 1	SB Left	0.562	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	139	107	611	116	123	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.33	0.86	16.26	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	107	611	116	123	604
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	27	157	30	32	155
Total Analysis Volume [veh/h]	143	110	627	119	126	620
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	120
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.20	0.07	0.08	0.19
Intersection LOS	A					
Intersection V/C	0.562					

Compass BESS

Vistro File: P:\...\Compass_BESS_PM.vistro
Report File: P:\...\EX+P PM_HCM.pdf

Scenario 4 Existing plus Project_HCM
6/3/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Camino Capistrano/Avery Parkway	Signalized	HCM 6th Edition	SB Left	0.571	41.1	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: Camino Capistrano/Avery Parkway

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

Volumes

Name	Camino Capistrano		Camino Capistrano		Avery Parkway	
Base Volume Input [veh/h]	139	107	611	116	123	604
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.33	0.86	16.26	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	107	611	116	123	604
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	27	157	30	32	155
Total Analysis Volume [veh/h]	143	110	627	119	126	620
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	10	0	5	10	5	0
Maximum Green [s]	22	0	23	49	23	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	26	0	47	73	47	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	17	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	49	49	27	80	32	32
g / C, Green / Cycle	0.41	0.41	0.22	0.67	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.20	0.07	0.09	0.24
s, saturation flow rate [veh/h]	1710	1454	3155	1698	1419	2573
c, Capacity [veh/h]	704	598	705	1135	376	682
d1, Uniform Delay [s]	22.65	22.45	45.11	7.09	35.52	42.65
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.68	4.12	0.19	0.52	5.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.18	0.89	0.10	0.33	0.91
d, Delay for Lane Group [s/veh]	23.30	23.13	49.23	7.28	36.04	47.73
Lane Group LOS	C	C	D	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.74	2.11	9.39	1.11	3.04	9.30
50th-Percentile Queue Length [ft/ln]	68.52	52.64	234.79	27.64	75.97	232.43
95th-Percentile Queue Length [veh/ln]	4.93	3.79	14.42	1.99	5.47	14.30
95th-Percentile Queue Length [ft/ln]	123.33	94.74	360.44	49.75	136.75	357.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.30	23.13	49.23	7.28	36.04	47.73
Movement LOS	C	C	D	A	D	D
d_A, Approach Delay [s/veh]	23.23		42.53		45.76	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	41.11					
Intersection LOS	D					
Intersection V/C	0.571					

Other Modes

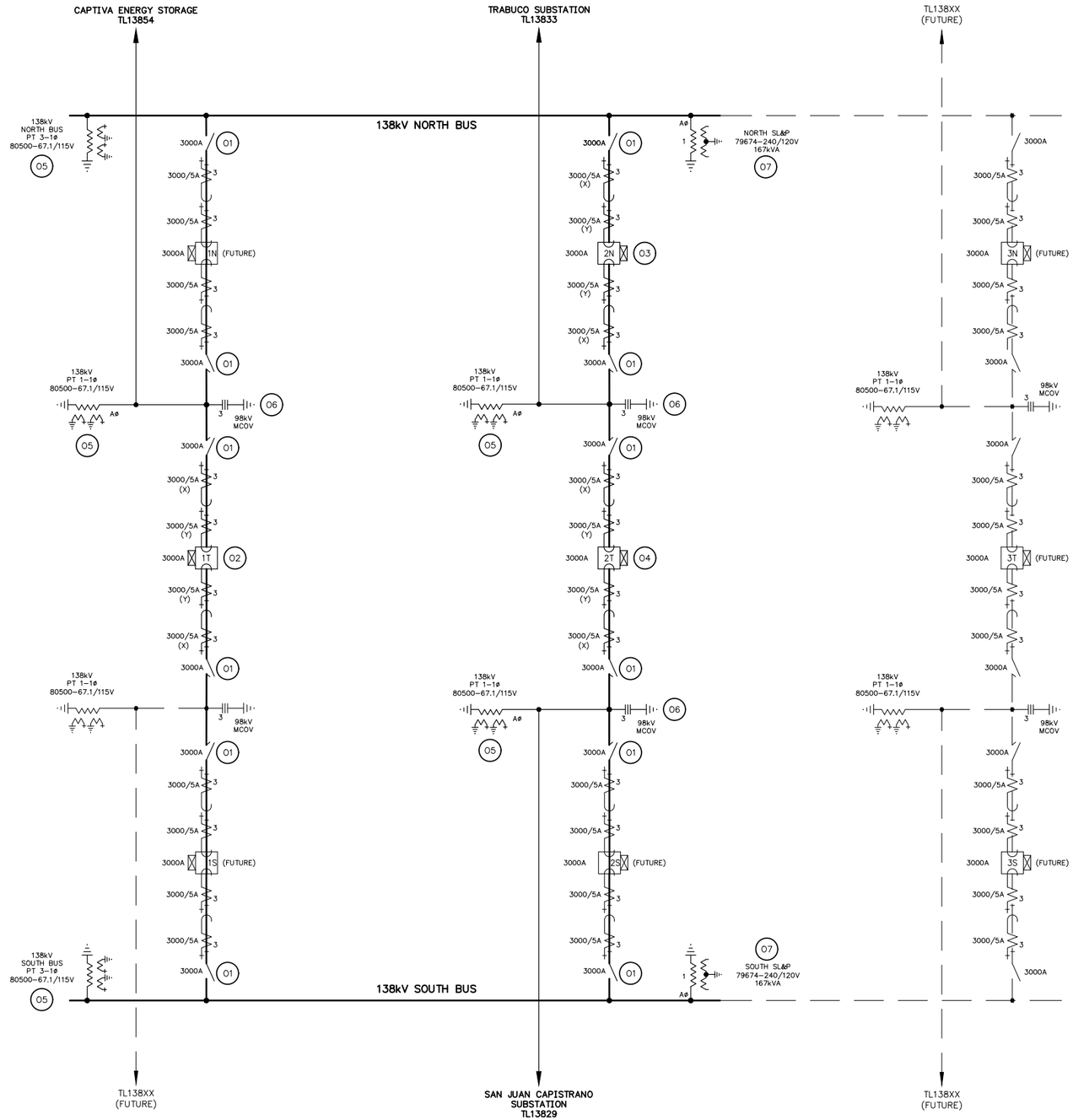
g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.30
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	2.604
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	1151	717
d_b, Bicycle Delay [s]	39.98	10.81	24.67
l_b,int, Bicycle LOS Score for Intersection	1.977	2.791	1.560
Bicycle LOS	A	C	A

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment 17

DR TSD-1. Project Substation One Line Diagram



STATION NORTH

ISSUED FOR PERMITTING

NOTE:
DASHED LINES INDICATE FUTURE EQUIPMENT POSITION

REFERENCE DRAWINGS:
ONE LINE BILL OF MATERIAL E-2000

REVISIONS

NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:

SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA

SADDLEBACK SWITCHYARD

138kV EQUIPMENT ONE LINE DIAGRAM

DRAWN BY: REP	DATE: 6/14/22	SCALE: NONE	W.O.: 5502169	REV.: 0	SDK-E-31
CHECKED BY: AF	DATE: 6/14/22	ECI			
APPROVED BY:	DATE:	INT W.O.: 5502169			
CAD NO.: SDKE31	PLOT SCALE: 1 = 1				

Sept 21, 2022 - 10:41:32

Attachment 18

DR TSD-1. SDG&E Switchyard One Line Diagram

NORTH

VT–11
(3) VTs
MFG, TYPE
20,125–115/67.08 V
175/300:5
0.3 WXMYZ

89C11
MFG, TYPE
38 kV, 1200 A

52C11
EMA, VHD
38 kV, 1200 A

89C11A
MFG, TYPE
38 kV, 1200 A

CS11
CAP SWITCHER
38 kV, 600A

57C11
38 kV, 600A

CAP BANK C11
38 kV, 10 MVAR CAP BANK

29 kV MCOV RSR. CL

VT–C11
(1) VT
20,125–115/67.08 V
175/300:1
0.3 WXYZ

BESS FEEDER #1B (27 MW)
89F11B MFG, TYPE 38 kV, 1200 A
52F11 MFG, TYPE 38 kV, 1200 A
89F11 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #1A (27 MW)
89F11A MFG, TYPE 38 kV, 1200 A

BESS FEEDER #2B (27 MW)
89F12B MFG, TYPE 38 kV, 1200 A
52F12 MFG, TYPE 38 kV, 1200 A
89F12 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #2A (27 MW)
89F12A MFG, TYPE 38 kV, 1200 A

BESS FEEDER #3B (27 MW)
89F13B MFG, TYPE 38 kV, 1200 A
52F13 MFG, TYPE 38 kV, 1200 A
89F13 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #3A (27 MW)
89F13A MFG, TYPE 38 kV, 1200 A

29 kV MCOV RSR. CL

HOLD
CLR–B1
MFG
XXX OHMS, XXX A
XX kA @ XX SEC.
MECH. SC. XX KA
(TBD)

89BT1
MFG, TYPE
38 kV, 3000 A

TRANSFORMER T1
MFG
138–34.5 kV
179/238/298 MVA @ 65°
ONAN/ONAF/ONAF
Z=10.0%
HV OLTC +/–10%

34.5 kV BUS

89M1
MFG, TYPE
138 kV, 2000 A

M69
ABB, TYPE
(3) VT: 40,250–115/67.08V
700/1200:1:1 0.3 ZZ
(3) CT: 500:5 SR,
0.15SB–1.8
RF=4.0

52T1
MFG, TYPE
145 kV, 2000 A

89L1
MFG, TYPE
138 kV, 2000 A

138 kV LINE TO POI

24 kV MCOV STA. CL

88 kV MCOV STA. CL

NGR1
MFG
XXXXX mH
XXX OHM, 400 A
XX kA @ 3 SEC.
XXX kV BIL
HOLD

CVT–11
(3) 138 kV CVTs
88,000–115/69 V
700/1200:1
0.3 WXYZ, ZZ

BESS FEEDER #4B (27 MW)
89F24B MFG, TYPE 38 kV, 1200 A
52F24 MFG, TYPE 38 kV, 1200 A
89F24 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #4A (27 MW)
89F24A MFG, TYPE 38 kV, 1200 A

BESS FEEDER #5B (27 MW)
89F25B MFG, TYPE 38 kV, 1200 A
52F25 MFG, TYPE 38 kV, 1200 A
89F25 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #5A (27 MW)
89F25A MFG, TYPE 38 kV, 1200 A

BESS FEEDER #6B (27 MW)
89F26B MFG, TYPE 38 kV, 1200 A
52F26 MFG, TYPE 38 kV, 1200 A
89F26 MFG, TYPE 38 kV, 1200 A

BESS FEEDER #6A (27 MW)
89F26A MFG, TYPE 38 kV, 1200 A

29 kV MCOV RSR. CL

HOLD
CLR–B2
MFG
XXX OHMS, XXX A
XX kA @ XX SEC.
MECH. SC. XX KA
(TBD)

89BT2
MFG, TYPE
38 kV, 3000 A

S&C, SM–5 5E FUSE

SST1
100 kVA XFMR
19,920–120/240 V

89C22
MFG, TYPE
38 kV, 1200 A

52C22
EMA, VHD
38 kV, 1200 A

89C22A
MFG, TYPE
38 kV, 1200 A

CS22
CAP SWITCHER
38 kV, 600A

57C22
38 kV, 600A

CAP BANK C22
38 kV, 10 MVAR CAP BANK

VT–C22
(1) VT
20,125–115/67.08 V
175/300:1
0.3 WXYZ

VT–22
(3) VTs
MFG, TYPE
20,125–115/67.08 V
175/300:5
0.3 WXMYZ

29 kV MCOV RSR. CL

ISSUED FOR PERMITTING

FILE LOCATION: \\EGNYTEDRIVE\CLOUD STORAGE\SHARED\01 ECI\EPC SERVICES\02 PROJECTS\EPCS–592 COMPASS BESS\SUBSTATION\100 CADD\110 WORKING\112 SCHEMATIC\CMP–D–S001–01–02.DWG LAST SAVED BY: vdpope 6/24/2024 10:37 AM PLOTTED BY: Victor D. Pope 6/24/2024 10:37 AM Tab:CMP–D–S001–01

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.
BILLINGS, MONTANA

NO	REVISION	DATE	BY	APR
0	ISSUED FOR PERMITTING	06/24/24	VDP	AMK

ENGIE

ENGINEERING RECORD		DATE
DRAWN	POPE	12/23
DESIGNED	KINNEE	12/23
CHECKED		
APPROVED		
DWG SCALE: NONE	PLT SCALE: 1:1	

COMPASS – ENERGY STORAGE PROJECT
34.5 – 138 kV COMPASS SUBSTATION SWITCHING DIAGRAM

DWG. NAME: CMP–D–S001–01
REVISION NO : 0

Attachment 19

DR TSD-5. Phase II Interconnection Study Report (Confidential)

Attachment 20

DR VIS-17. Updated Conceptual Landscape Plan

PROPERTY LINE

GATE

WALL

AGGREGATE SURFACING, TYP.

ASPHALT PAVEMENT, TYP.

UNDERGROUND STORMWATER SYSTEM

PAD EDGE
N 2140766.24
E 6126297.57
EL 217.16

FENCE, TYP.

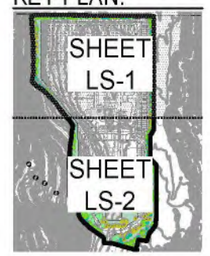
BROW DITCH

LIMIT OF GRADING

PAD EDGE
N 2140539.18
E 6126479.75
EL 215.88

MATCHLINE - SEE SHEET LS-2

KEY PLAN:



PLANT KEY:

BOTANICAL NAME	SYMBOL
TREES:	
LYONOTHAMNUS FLORIBUNDUS	
LAGUNARIA PATERSONIA	
QUERCUS AGRIFOLIA	
RHUS LANCEA	
SHRUBS & GROUNDCOVERS	
VINES	

NORTH 0' 15' 30' 60'

PLANTING PLAN - NORTH

JUNE 17, 2024

SEE SHEET LS-3 FOR PLANT LEGEND, AND PLANTING NOTES.
SEE SHEET LS-4 FOR DETAILS AND LS-5 FOR REPRESENTATIVE TREE IMAGES.
SEE SHEET LS-6 FOR IRRIGATION PLAN.

DUDEK
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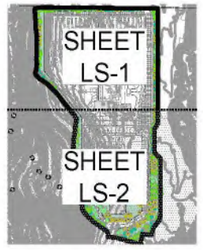
760.942.5147

PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY STORAGE PROJECT

FOR BROAD REACH POWER

SHEET LS-1

13166



PLANT KEY:

BOTANICAL NAME	SYMBOL
TREES:	
LYONOTHAMNUS FLORIBUNDUS	
LAGUNARIA PATERSONIA	
QUERCUS AGRIFOLIA	
RHUS LANCEA	
SHRUBS & GROUNDCOVERS	
VINES	

NORTH 0' 15' 30' 60'

PLANTING PLAN - SOUTH

JUNE 17, 2024

SEE SHEET LS-3 FOR PLANT LEGEND, AND PLANTING NOTES.
SEE SHEET LS-4 FOR DETAILS AND LS-5 FOR REPRESENTATIVE TREE IMAGES.
SEE SHEET LS-6 FOR IRRIGATION PLAN.

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PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY
STORAGE PROJECT

FOR BROAD REACH POWER

SHEET LS-2

13166

PLANT LEGEND:

BOTANICAL NAME	COMMON NAME	SIZE	AVERAGE SPACING	QUANTITY	GROWTH RATE	HEIGHT AT 1 YR / 5 YRS / MATURITY	WIDTH	WATER USE	SYMBOL
TREES:									
LYONOTHAMNUS FLORIBUNDUS	CATALINA IRONWOOD	24" BOX	15'	88	MODERATE (2' / YEAR)	10' / 20' / 20'-30'	20'-30'	LOW	
LAGUNARIA PATERSONIA	PRIMROSE TREE	24" BOX	15'	55	FAST (3' / YEAR)	13' / 28' / 50'	20'	LOW	
QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX	30'	51	MODERATE (2' / YEAR)	12' /22' / 20'-50'	2'-50'	VERY LOW	
SEARSIA LANCEA	AFRICAN SUMAC	24" BOX	15'	63	MODERATE (2' / YEAR)	10' /20' / 25'-30'	25'-30'	LOW	
SHRUBS AND GROUNDCOVER:									
NATIVE SHRUBS									
ENCELIA CALIFORNICA	CALIFORNIA BUSH SUNFLOWER	1 GAL.	5'	630	FAST	1' / 5' / 5'	5'	VERY LOW	
HETEROMELES ARBUTIFOLIA	TOYON	5 GAL	15'	70	MODERATE	2' / 8' /15'	10'-15'	VERY LOW	
MIMULUS AURANTIACUS VAR. PUNICEUS	RED MONKEYFLOWER	5 GAL	3'	1,750	FAST	2' / 3' /3'	3'	VERY LOW	
FRANGULA CALIFORNICA 'EVE CASE'	CALIFORNIA COFFEEBERRY	1 GAL.	5'	630	SLOW	1' / 3' / 4'	5'	VERY LOW	
RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	15'	70	FAST	2' / 6' / 15'	10'-30'	VERY LOW	
GROUNDCOVER									
BACCHARIS PILULARIS 'TWIN PEAKS'	DWARF COYOTE BUSH	1 GAL.	2'	3,938	FAST	1' / 2' / 2'	8'	LOW	
CEANOTHUS GRISEUS HORIZONTALIS 'YANKEE POINT'	CARMEL CREEPER	1 GAL.	3'	1,750	FAST	1' / 2' / 2'	10'	LOW	
VINES:									
DISTICTIS BUCCINATORIA	BLOOD RED TRUMPET VINE	5 GAL.	30'	50	FAST	2' / 10' / 40'	30'	MODERATE	▲

PLANT REQUIREMENTS PER ORANGE COUNTY FIRE AUTHORITY GUIDELINE C-05

- HETEROMELES ARBUTIFOLIA: LIMITED TO GROUPS OF 3 MAX. PLACED MIN. 30 FEET APART AND LOCATED MUST BE PLACED AT LEAST 50 FEET FROM STRUCTURES.
- MIMULUS AURIANTICUS: MUST BE FROM LOCALLY COLLECTED STOCK.
- RHUS INTEGRIFOLIA: LIMITED TO GROUPS OF 3 MAX. PLACED MIN. 30 FEET APART AND LOCATED MUST BE PLACED AT LEAST 50 FEET FROM STRUCTURES.

PLANTING NOTES:

1. ALL SHRUB AND TREE AREAS WILL BE MULCHED WITH WALK-ON-FIR BARK AND WILL BE IRRIGATED FOR 3 TO 5 YEARS VIA AN ABOVE-GROUND LOW-FLOW SYSTEM.
2. DETAILED PLANTING AND IRRIGATION PLANS ARE ANTICIPATED TO BE PREPARED AT A LATER DATE, BASED UPON THIS PRELIMINARY PLAN.

CITY OF SAN JUAN CAPISTRANO LANDSCAPE GUIDELINES

THIS LANDSCAPE DESIGN PLAN HAS BEEN DESIGNED TO COMPLY WITH THE CITY OF SAN JUAN CAPISTRANO LANDSCAPE DOCUMENTATION CHECKLIST (LAST UPDATED APRIL 2011).

1. SEE SHEET LS-6 FOR THE WATER EFFICIENT LANDSCAPE WORKSHEET DOCUMENTING THAT ESTIMATED APPLIED WATER USE (EAWU) IS LESS THAN THE MAXIMUM APPLIED WATER ALLOWANCE (MAWA).
2. PLANTS WERE SELECTED USING THE FOLLOWING CRITERIA:
   - A. SUITABLE FOR SUNSET WESTERN CLIMATE ZONE 23.
   - B. HORTICULTURAL ATTRIBUTES TO MINIMIZE DAMAGE TO PROPERTY OR INFRASTRUCTURE.
   - C. MAXIMIZE SUMMER SHADE AND WINTER SOLAR GAIN FOR BUILDINGS.
   - D. NO TURF ON SLOPES GREATER THAN TEN (10) PERCENT.
   - E. TURF SHALL NOT EXCEED TWENTY PERCENT OF THE TOTAL LANDSCAPED AREA.
   - F. COMPLY WITH THE REQUIREMENTS AND STANDARDS AS SET FORTH BY THE ORANGE COUNTY FIRE AUTHORITY (OCFA).
   - G. NO INVASIVE AND/OR NOXIOUS PLANT SPECIES AS LISTED ON THE CALIFORNIA INVASIVE PLANT COUNCIL (CAL-IPC) "INVASIVE PLANT INVENTORY" FOR SOUTHERN CALIFORNIA.

SUMMARY OF SURFACES

DECRIPTION	AREA (SF)
PERVIOUS SURFACE	
EXISTING	530,784
PROPOSED	304,844
PROPOSED LANDSCAPE AREA	111,965
IMPERVIOUS SURFACE	
EXISTING	7,636
PROPOSED	121,611

PLANT LEGEND AND NOTES

JUNE 17, 2024

SEE SHEETS LS-1 AND LS-2 FOR PLANTING PLAN.
SEE SHEET LS-4 FOR DETAILS AND LS-5 FOR REPRESENTATIVE TREE IMAGES.
SEE SHEET LS-6 FOR IRRIGATION PLAN.

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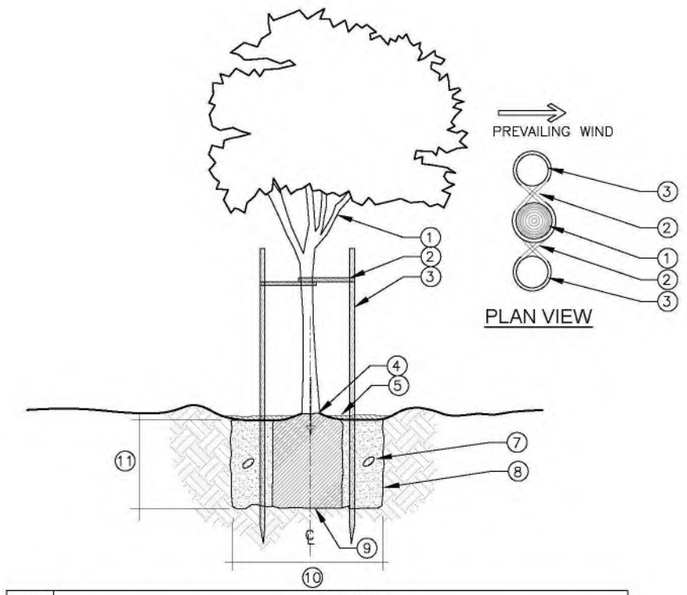
PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY
STORAGE PROJECT

FOR BROAD REACH POWER

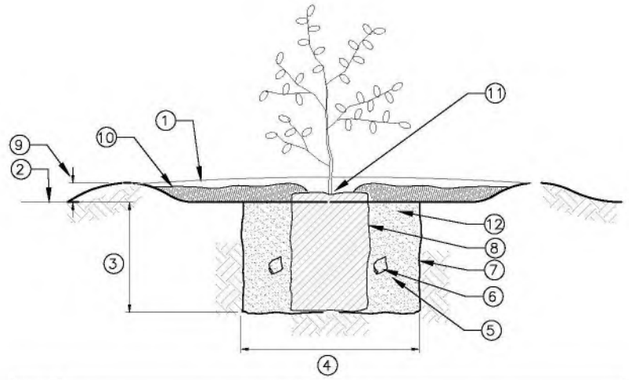
SHEET LS-3

13166



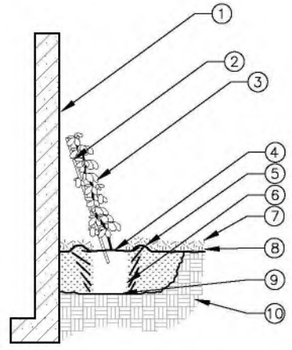
ITEM	DESCRIPTION
1	15 GALLON OR 24" BOX TREE, (SEE PLANS & PLANTING LIST)
2	(2) No.10 GAUGE GALVANIZED WIRE WITH RUBBER OR PLASTIC HOSE AROUND. STAPLE TO STAKE
3	(2) 2" DIAMETER TREATED LODGEPOLE TREE STAKES (SET PLUMB); DO NOT PENETRATE ROOTBALL.
4	ROOT CROWN/TRUNK FLARE OF TREE 1" ABOVE FINISH GRADE
5	2" THICK MULCH LAYER IN PLANTING BASIN, AS SPECIFIED. HOLD BACK 3" FROM ROOT CROWN
6	WATERING BASIN 6" ABOVE FINISH GRADE, FIRMLY COMPACTED
7	CONTROLLED RELEASE FERTILIZER PACKETS TO BE INCLUDED IN BACKFILL MIX (PER SOIL ANALYSIS). PACKS PER TREE: (9) FOR 15 GAL., (15) FOR 24" BOX
8	BACK FILL MIX PER SOIL AMENDING REQUIREMENTS
9	ROOT BALL (SIZE VARIES PER PLAN)
10	EXCAVATE TO DEPTH OF ROOTBALL
11	EXCAVATE TO 2.5X WIDTH OF ROOTBALL

A LS-4 24" BOX OR 15 GALLON TREE PLANTING
NOT TO SCALE



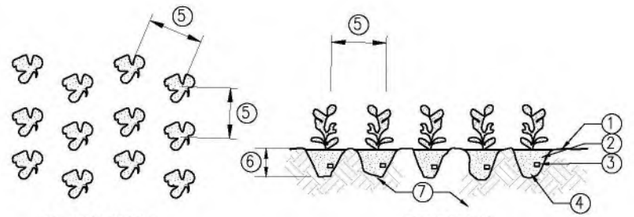
ITEM	DESCRIPTION
1	EXISTING GRADE
2	FINISH GRADE
3	DIG PLANTING HOLE DEPTH OF ROOT BALL & 2X WIDTH
4	TWO TIMES WIDTH OF ROOT BALL
5	WATER AND TAMP BACKFILL MIX WELL. TO BE FREE OF ROCKS AND CLODS OVER 1" DIA.
6	2 CONTROLLED RELEASE FERTILIZER PACKETS TO BE INCLUDED IN BACKFILL MIX
7	SCARIFY SIDES OF PLANTING PIT
8	ROOT BALL
9	WATERING BASIN 6" ABOVE FINISH GRADE
10	3" THICK SHREDDED BARK MULCH LAYER 18" RADIUS, HOLD BACK 3" FROM ROOT CROWN
11	ROOT CROWN OF SHRUB 1" ABOVE FINISH GRADE
12	BACK FILL MIX PER SOIL AMENDING REQUIREMENTS

C LS-4 1 GALLON AND 5 GALLON SHRUB PLANTING
NOT TO SCALE



ITEM	DESCRIPTION
1	FACE OF WALL OR BUILDING
2	LEAN NURSERY STAKE AGAINST THE WALL. STAKE TO BE REMOVED AT THE END OF THE MAINTENANCE PERIOD AFTER THE VINE HAS ATTACHED TO THE WALL.
3	VINE
4	THREE TIMES WIDTH OF ROOT BALL
5	4" TO 8" WIDE ROUND TOPPED SOIL BERM ABOVE ROOT BALL SURFACE AROUND ROOT BALL
6	POUR WATER AROUND THE ROOT BALL TO SETTLE THE SOIL
7	4" LAYER OF MULCH
8	FINISH GRADE
9	ROOT BALL RESTS ON EXISTING OR RECOMPACTED SOIL
10	EXISTING SOIL

D LS-4 VINE PLANTING
NOT TO SCALE



ITEM	DESCRIPTION
1	FINISH GRADE
2	ROOT BALL
3	1 CONTROLLED RELEASE FERTILIZER PACKETS TO BE INCLUDED IN BACKFILL MIX
4	WATER AND TAMP BACKFILL MIX WELL.
5	SEE PLANTING LEGEND FOR SPACING. PLANT GROUNDCOVER PLANTS EVENLY AT 12" O.C.
6	DEPTH OF ROOT BALL
7	AMENDED SOIL

C LS-4 SHRUB/GROUNDCOVER PLANTING
NOT TO SCALE

PLANTING DETAILS

SEE SHEETS LS-1 AND LS-2 FOR PLANTING PLAN.
SEE SHEET LS-3 FOR PLANT LEGEND, AND PLANTING NOTES.
SEE SHEET LS-5 FOR REPRESENTATIVE TREE IMAGES.
SEE SHEET LS-6 FOR IRRIGATION PLAN.

JUNE 17, 2024

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PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY
STORAGE PROJECT

FOR BROAD REACH POWER

SHEET LS-4

13166

A LS-5 LYONOTHAMNUS FLORIBUNDUS
NOT TO SCALE

B LS-5 LAGUNARIA PATERSONIA
NOT TO SCALE

C LS-5 QUERCUS AGRIFOLIA
NOT TO SCALE

D LS-5 RHUS LANCEA
NOT TO SCALE

REPRESENTATIVE TREE IMAGES

SEE SHEETS LS-1 AND LS-2 FOR PLANTING PLAN.
SEE SHEET LS-3 FOR PLANT LEGEND, AND PLANTING NOTES.
SEE SHEET LS-4 FOR PLANTING DETAILS.
SEE SHEET LS-6 FOR IRRIGATION PLAN.

JUNE 17, 2024

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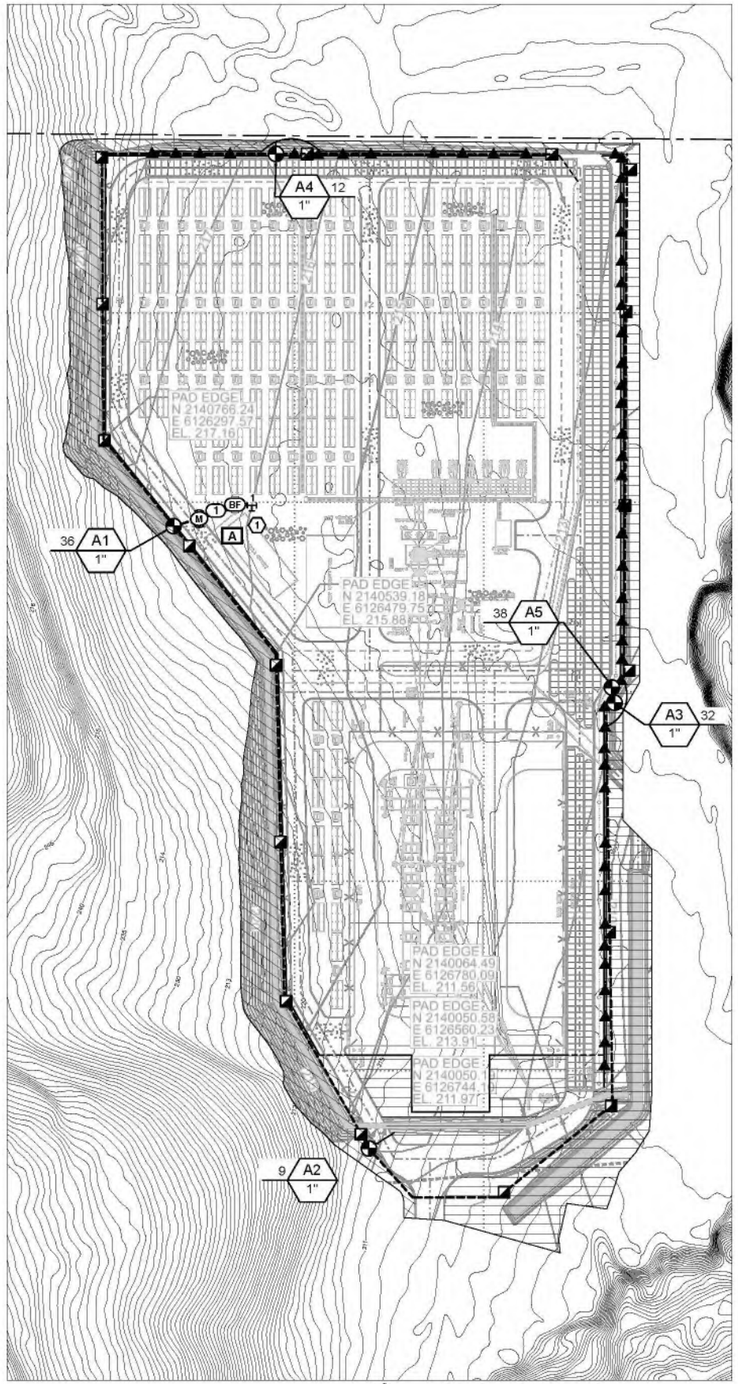
PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY
STORAGE PROJECT

FOR BROAD REACH POWER

SHEET LS-5

13166



NORTH 0' 40' 80' 160'

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	IN-LINE DRIP EMITTERS 0.16 GPH EMITTERS AT 24" O.C. DRIPPERLINE LATERALS SPACED AT 24" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN.
▲	*DRIP EMITTER 0.5 GPH PRESSURE COMPENSATING DRIP EMITTER WITH DIFFUSION CAP. TWO (2) EMITTERS PER SYMBOL, PLACED ON OPPOSITE SIDES OF PLANT.*
1"	*POINT OF CONNECTION MINIMUM 80 GPM AND 100 PSI WATER CONNECTION.*
BF	*BACKFLOW PREVENTION DEVICE REDUCED PRESSURE DOUBLE-CHECK VALVE ASSEMBLY*
1	*FLOW SENSOR CONNECTED TO IRRIGATION CONTROLLER*
M	*MASTER VALVE 2" PLASTIC ELECTRIC REMOTE CONTROL VALVE, GLOBE CONFIGURATION WITH NPT THREADED INLET/OUTLET.*
	REMOTE CONTROL VALVE 1 IN. AND 1-1/2 IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET.
	QUICK COUPLER VALVE 1 IN. NPT INLET WITH 2-PIECE BOD AND YELLOW RUBBER LOCKING COVER.
A	*4-STATION AUTOMATIC CONTROLLER*
1	*WEATHER STATION WITH RAIN SENSOR AND WIND SENSOR*
	IRRIGATION LATERAL LINE PVC CLASS 315 SDR 13.5, SIZED 3/4" TO 2" AS REQUIRED
	IRRIGATION MAINLINE PVC CLASS 315 SDR 13.5, SIZED 1" TO 2" AS REQUIRED

Valve Callout
#" #
Valve Number
Valve Flow
#" Valve Size

WATER EFFICIENT LANDSCAPE WORKSHEET

(AS REQUIRED BY THE W.E.L.O.)

REFERENCE EVAPOTRANSPIRATION (ETo) 43.3 | MAWA ETAF 0.45

HYDROZONE / PLANT TYPE	VALVE #	PLANT FACTOR (PF)	IRRIGATION METHOD	IRRIGATION EFFICIENCY (IE)	ETAF (PF/IE)	LANDSCAPE AREA (SQ.FT.)	ETAF x AREA	ESTIMATED APPLIED WATER USE (EAWU)
REGULAR LANDSCAPE AREAS								
LOW WATER USE PLANTS	1	0.3	INLINE DRIP	0.81	0.37	52,706	19,520.74	524,053.81
LOW WATER USE PLANTS	2	0.3	INLINE DRIP	0.81	0.37	12,705	4,705.56	126,325.34
LOW WATER USE PLANTS	3	0.3	INLINE DRIP	0.81	0.37	45,910	17,003.70	456,481.43
MODERATE WATER USE VINES	4	0.6	DRIP EMITTER	0.81	0.74	144	106.67	2,863.57
MODERATE WATER USE VINES	5	0.6	DRIP EMITTER	0.81	0.74	500	370.37	9,942.96
					TOTALS	111,965	41,707.04	
							TOTAL LANDSCAPE AREA (SQFT)	111,965
							EAWU (GAL/YEAR)	1,119,667
							MAWA (GAL/YEAR)	1,352,616
							AVERAGE ETAF	0.37

NOTES:

1	IRRIGATION EFFICIENCY	3	ETAF Variable
	SPRAY 0.75		RESIDENTIAL 0.55
	DRIP 0.81		ALL OTHERS 0.45
2	PLANT FACTOR	4	MAWA (MAXIMUM APPLIED WATER ALLOWANCE)
	LOW 0.1-0.3		=(ETO)(0.62)[(ETAF X LA)+((1-ETAF) X SLA)]
	MED 0.4-0.6	5	EAWU (ESTIMATED APPLIED WATER USE)
	HIGH 0.7-1		=(ETO)(0.62)[(ETAF)(LA)+SLA]

IMPORTANT NOTE REGARDING IRRIGATION DESIGN EFFICIENCY: THE IRRIGATION SYSTEM HYDRAULICS, CONTROLLER OPERATION, NOZZLE SELECTION, HEAD SPACING AND PLACEMENT ARE DESIGNED TO BE IN CONFORMANCE WITH THE CITY'S WATER EFFICIENT LANDSCAPE ORDINANCE. THE IRRIGATION DESIGN IS INTENDED TO OPERATE WITH A MINIMUM DISTRIBUTION UNIFORMITY OF 81% FOR DRIP OR BUBBLER SYSTEM DEVICES. WHILE THE DESIGN IS DIAGRAMMATIC, THE CONTRACTOR SHALL ENSURE THAT THE MINIMUM DISTRIBUTION UNIFORMITY IS MET BY MAKING MINOR YET VIABLE ADJUSTMENTS IN THE FIELD DURING CONSTRUCTION. CONTRACTOR SHALL CONTACT THE PROJECT OWNER IMMEDIATELY IF, FOR ANY REASON, HE/SHE FORESEES THAT THE SYSTEM AS DESIGNED CANNOT MEET THE MINIMUM DISTRIBUTION UNIFORMITY SPECIFIED.

IRRIGATION NOTES:

1. PLANTINGS ARE COMPRISED OF SOUTHERN CALIFORNIA NATIVES, NATIVE CULTIVARS, AND DROUGHT TOLERANT ORNAMENTAL SPECIES THAT SHOULD SURVIVE WITH MINIMAL SUPPLEMENTAL IRRIGATION ONCE ESTABLISHED.
2. ESTABLISHMENT PERIOD: INCREASE WATERING BY 20% DURING FIRST 3 MONTHS FOLLOWING PLANT INSTALLATION. AFTER THREE TO FIVE YEARS WHEN PLANT ROOT SYSTEMS ARE SUFFICIENT TO SUPPORT PLANTS WITH MINIMAL SUPPLEMENTAL WATER, TAPER WATERING SCHEDULE TO PROVIDE SUPPLEMENTAL WATER DURING EXCEPTIONALLY HOT AND DRY WEATHER AS NEEDED FOR PLANT SURVIVAL.
3. AN AUTOMATIC, ELECTRICALLY CONTROLLED IRRIGATION SYSTEM SHALL BE PROVIDED AS REQUIRED BY LDC 142.0403(C) FOR PROPER IRRIGATION, DEVELOPMENT, AND MAINTENANCE OF THE VEGETATION IN A HEALTHY, DISEASE-RESISTANT CONDITION.
4. BROAD BEACH POWER WILL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE.

IRRIGATION PLAN

SEE SHEETS LS-1 AND LS-2 FOR PLANTING PLAN.
SEE SHEET LS-3 FOR PLANT LEGEND, AND PLANTING NOTES.
SEE SHEET LS-4 FOR DETAILS AND LS-5 FOR REPRESENTATIVE TREE IMAGES.

JUNE 17, 2024

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760.942.5147

PRELIMINARY LANDSCAPE PLAN
COMPASS ENERGY STORAGE PROJECT
FOR BROAD REACH POWER

SHEET LS-6
13166

Attachment 21

DR WATER-2. Will Serve Letter

moulton niguel water district

May 25, 2022

Justin Alvord
jalvord@broadreachpower.com
333 Clay Street, Suite 2800
Houston, TX 77002

RE: Feasibility Letter – Proposed Development
Compass Energy Storage Battery Project
Saddleback Church
29343 Camino Capistrano
San Juan Capistrano, CA 92675

Dear Mr. Alvord:

Moulton Niguel Water District (MNWD) has investigated the proposed development at the above referenced location. A Will Serve Letter will be sent to the City of San Juan Capistrano, once Development plans have been reviewed and approved, and all required permitting steps are complete with MNWD Engineering. **This letter is not to be interpreted as MNWD approval for a municipal Grading or Building permit.**

MNWD will service the above-mentioned project for water service, and preliminary review suggests available water supply to support the project. This project is not within MNWD's boundaries. As this project's water use is expected to be less than the equivalent of 500 dwelling units, a Water Supply Assessment under Senate bill 610 is not required. The availability of water service is subject to the suppliers of water to MNWD continuing to honor their contractual obligation relative to the amount of water to be supplied. MNWD can make no representations as to the future intention of said suppliers in this regard. This indication of MNWD's ability to serve the above-referenced project is conditional upon the following MNWD Permitting requirements:

Improvement Plans

Available capacity in the existing infrastructure will be determined once this development has received an Orange County Fire Authority (OCFA) Water Availability Form with required fire flows identified, and have this form submitted to MNWD for processing. This will be used to assess whether water system upgrades/upsizing is required. **New water main upsizing/construction and looping is anticipated for this location**. Additional items required for submittal from the developer or project manager are as follows:

- Initial fire flow analysis suggests that the proposed project will require upsizing and looping of potable water main lines. Approximately 1,000 linear feet of new 12-inch diameter pipeline shall be constructed as part of the project requirements generally beginning at the point of connection within the Mercedes Benz lot to a point along the northerly side of Saddleback Church. A high-low double valve and blowoff will also be required to be included in the design.
    - Construction of the above-mentioned potable main pipeline will require coordination/consideration with Saddleback Church since a change in pressure zone may be required.
- The proposed project is located outside MNWD's service area, so an inter-agency agreement with San Juan Capistrano will need to be fully executed prior to project approval.
- Complete Application for Water/Sewer Service.
- Complete Insurance and Bonding Requirements per MNWD's requirements.
- Two sets of site plans showing locations of proposed potable water connections for domestic use, fire suppression, dedicated irrigation use, and grading.
- Engineer's Estimate – materials and construction cost for facilities to be built and dedicated to MNWD. This will be used to determine Plancheck and Inspection fees, and used for construction performance bonding, if required.
- 2 sets of plumbing plans.
- The fire suppression/sprinkler system water demand (gallons-per-minute calculation) from this project's Fire Suppression/Sprinkler System designer.
- Backflow installation locations on fire suppression lines and dedicated potable irrigation.
- Easement documents and Title Report, if applicable (if any facilities to be dedicated to MNWD will be located on private property). Easement Encroachment Agreement required if any surface improvements are proposed within the MNWD easement.
- Two sets of Irrigation plans.
- Completion of an OCFA Water Availability Form, and Proof of OCFA Review and Approval.
- Hydraulic Analysis for fireflow (while keeping pipeline flows under the maximum velocities allowed), and/or for wastewater flows (while keeping sewer pipeline capacities within allowable tolerances), to determine any required facility upsizing if required.

Fee Schedule

The fee schedule and applicable costs that may be required are as follows:

- Commercial, Residential, Irrigation

Meter Size	Water Capacity Fee	Wastewater Capacity Fee
¾"	$2,405	$1,597
1"	$2,405	$1,597
1.5"	$4,810	$3,195
2"	$7,695	$5,112

2.5”	$12,265	$8,147
3”	$16,834	$11,182
4”	$30,301	$20,128
6”	$67,335	$44,730
8”	$115,432	$76,680
10”	$182,767	$121,410

- Potable Irrigation- Residential Development $1,479 per 1000 sq. ft. irrigated Non-Residential Development $1,210 per 1000 sq, ft. irrigated
- Plan check and Inspection Fees Minimum $800 plancheck and/or inspection; projects will require an initial deposit outlined in Resolution 18-13
- Construction Costs (both onsite and off-site improvements).
- Reimbursement agreement fees, Developer Impact Fees, and/or Special Assessments, if applicable.
- The use of recycled water will be required for construction.

Fees are subject to change.

Record Drawings

As-Built Drawings of existing facilities will be provided once project design commences. Design Engineer or Project Manager may request these drawings on the District website, at http://mnwd.com/engineering/.

MNWD will approve the plans after all remaining concerns have been addressed, easements are executed for facilities to be located on private property and after all applicable fees for this project are paid in full.

If you have any questions or require further assistance, please do not hesitate in contacting Sheldon Yu at 949-320.3640 at your earliest convenience.

Regards,

MOULTON NIGUEL WATER DISTRICT

Mark H Mountford

Mark H. Mountford, P.E.
Engineering Manager