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# BIOLOGICAL ASSESSMENT

APN 243-101-002-000

PLN 240240

December 12, 2024

Carmelite Monastery – Solar Array Project  
27601 Highway 1, Carmel, CA 93923

Prepared For: Mother Teresita Flynn OCD, Prioress  
Carmelite Monastery  
27601 Highway 1, Carmel, CA 93923

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# PROPERTY PROFILE

**DATE:** December 12, 2024

**PREPARED BY:** Nicole Nedeff, Consulting Ecologist. [nikki@ventanaview.net](mailto:nikki@ventanaview.net)  
11630 McCarthy Road, Carmel Valley, CA 93924; (831) 320-9463.

**SITE NAME, APN:** Carmelite Monastery, APN 243-101-002-000.

**PHYSICAL ADDRESS:** 27601 Highway 1, Carmel, CA 93923.

**ACREAGE:** Total acreage in subject parcel = 12.59 acres.

**USGS QUAD:** Monterey USGS 7.5' quadrangle, T16S, R1W, unsurveyed section.

**OWNER AGENT:** Paul Hayes, (206) 419-8099, [paul93923@gmail.com](mailto:paul93923@gmail.com)

**MONTEREY COUNTY PLANNING AREA:** Carmel Area, Coastal Zone.

**ZONING/PRESENT LAND USE:** Monterey County Zoning Designation = PQP-D(CZ). The Zoning code designation indicates that under Title 20, the property is in a Public/Quasi-Public District, with Design Control requirements in the Coastal Zone. Portions of the subject parcel are within the viewshed of Highway 1 and public trails in the adjoining Lshxenta State Park to the south (Point Lobos Ranch), however the proposed solar array project site is not within the critical viewshed. The subject parcel is developed with the Carmelite Monastery grounds - the solar array project will be situated within a fenced area that formerly served as the Monastery vegetable garden and bee hive location. The Monterey County project number for processing the Carmelite Monastery development permit application is PLN 240240.

**SITE LOCATION:** The site proposed for a new solar array to serve the Monastery is immediately south and downslope of the primary Monastery structures and within the fenced, former vegetable garden and bee hive apiary. Bee hives are no longer on-site and the area is no longer cultivated. The project area is north of San Jose Creek and the boundary of the new Lshxenta State Park.

**PROJECT DESCRIPTION:** The proposed project involves the installation of a solar array in the Monastery's former vegetable garden and apiary. Batteries will be housed in an existing pump house inside the former garden area.

**SITE VISIT:** December 6, 2024.

**HABITAT IN PROJECT AREA:** Ruderal vegetation in a highly disturbed site.

**SIGNIFICANT BIOLOGICAL ATTRIBUTES:** None in the project area. Proximity to San Jose Creek.

## 1. INTRODUCTION and PROPERTY DESCRIPTION

In early December 2024, I was contacted by Paul Hayes on behalf of the Mother Teresita, Prioress of the Carmelite Monastery, and asked to prepare a Biological Assessment for a small portion of the Monastery grounds south of Carmel, APN 243-101-002-000. The physical address for the parcel is 27601 Highway 1, Carmel, CA, and access to the proposed solar array project site is through locked gates on the grounds of the Carmelite Monastery.

The project site is located on granitic-based alluvium at the northly margin of the San Jose Creek drainage. The project area is situated on flat terrain at approximately 45 feet in elevation and approximately 210-feet from the Environmentally Sensitive Habitat Area (ESHA) comprising the Riparian corridor of San Jose Creek. The area proposed for the installation of a solar array has been highly disturbed and served as the former vegetable garden and apiary for the Sisters at the Monastery. The garden and apiary are no longer in use and the site remains vacant at this time.

A small pump house/shed occurs on the south-westerly edge of the relatively flat area where the solar array will be constructed. This building will house the battery units and points of connection for the solar system. No new, substantive, exterior construction will be required to retrofit the small structure and trenching for electrical conduit will traverse through weedy vegetation. A stairway provides pedestrian access to the former vegetable garden and apiary.



FIGURE 1 – Project site on map of Monterey County Planning Areas.

There is no significant natural vegetation in the project area. The site has been cleared for decades and is regularly weed-whacked to control weedy plants that have recruited vigorously in the area that previously supported a vegetable garden and bee hives. Large eucalyptus trees formerly existed on the site – these were felled some time ago and currently exhibit moderate sprouting – and at least one old Monterey pine died within the garden and was subsequently removed. Existing vegetation is ruderal (invasive, non-native and weedy) and is dominated by

non-native species of plants. Natural vegetation in areas outside the former garden area and Monastery grounds consists of Coastal Scrub, Coast Live Oak Woodland and Monterey Pine Forest, with Riparian habitat to the south along San Jose Creek (Figure 3).

Soils on the subject parcel are alluvial in nature and largely derived from granodiorite, with a prominent rocky granite outcrop on the hillside between the project area and the Monastery chapel above.

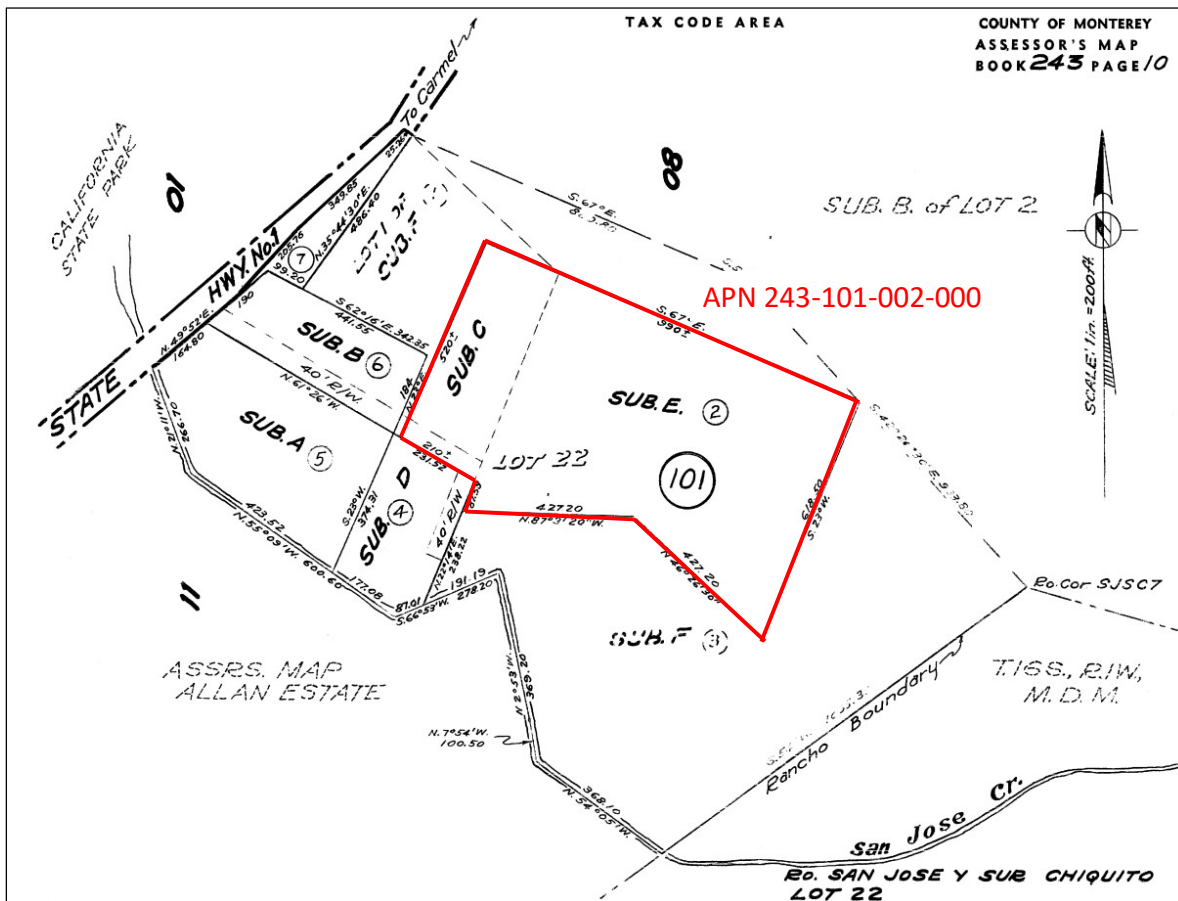


FIGURE 2 – Monterey County Parcel Map, APN 243-101-002-000 highlighted in red.



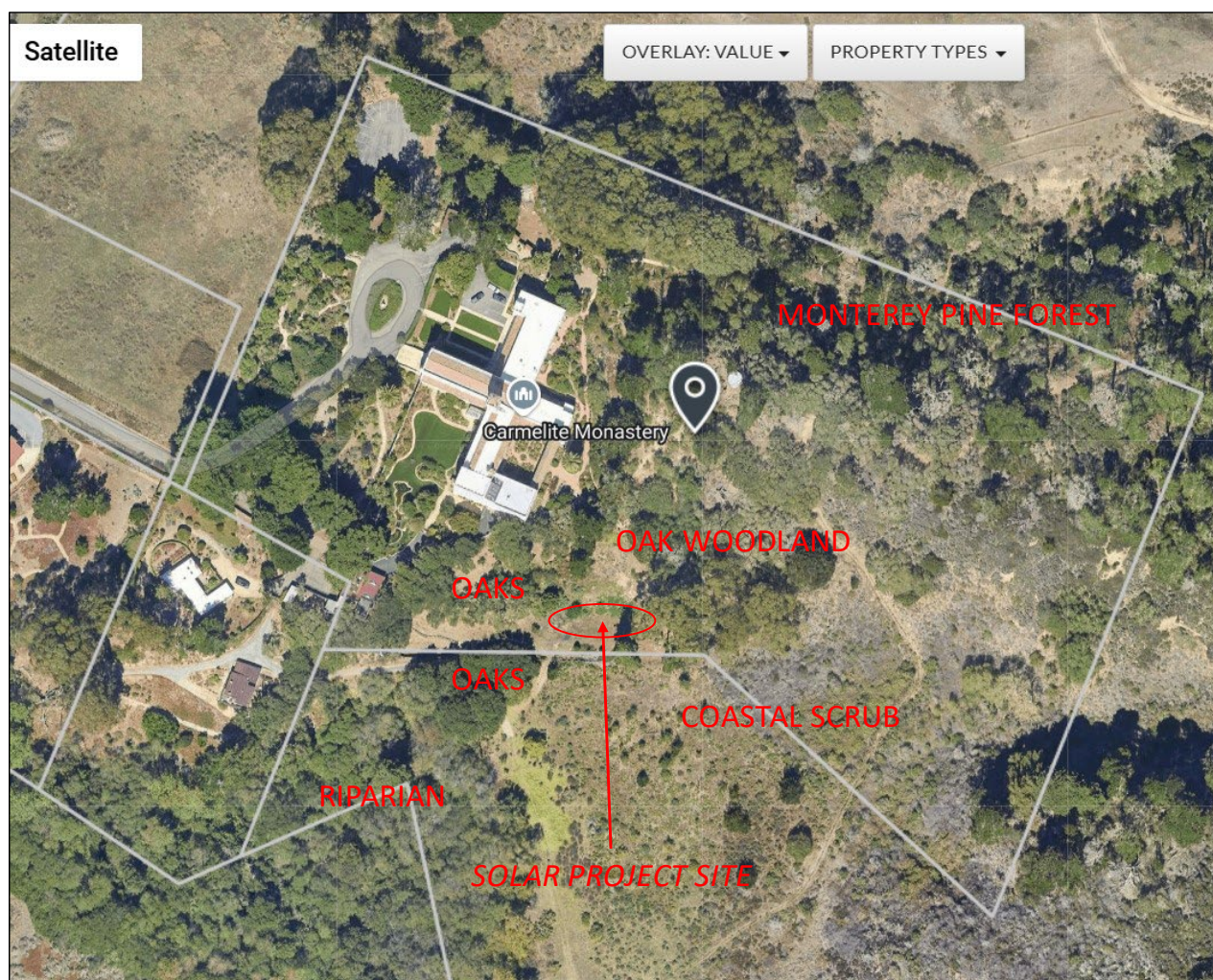


FIGURE 3 – Aerial image of vegetation cover and proposed project site.

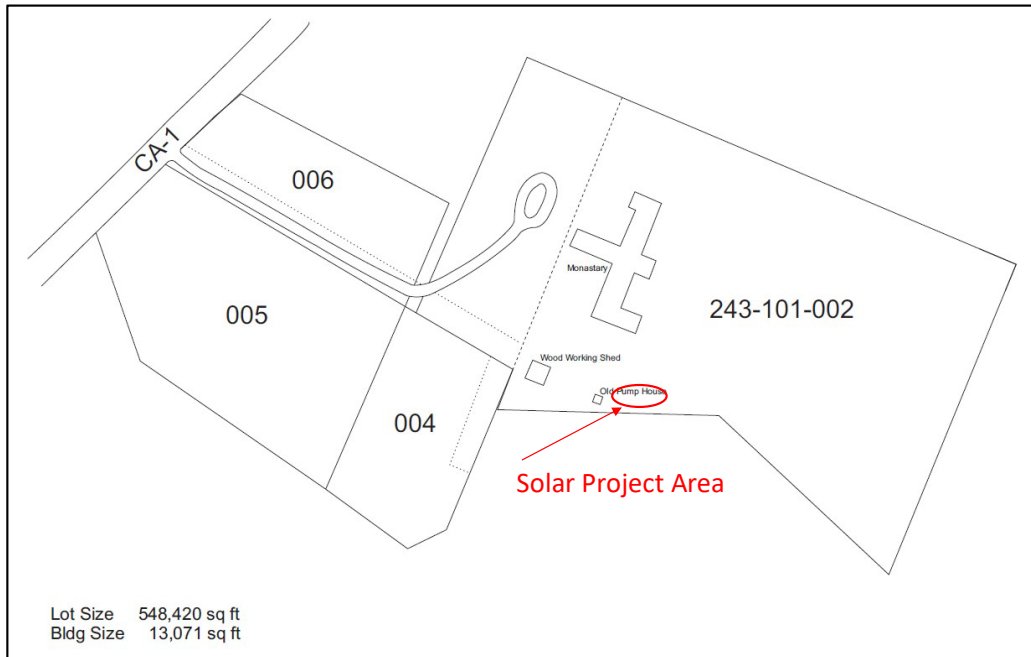


FIGURE 4 – Conceptual site plan for the solar array project.

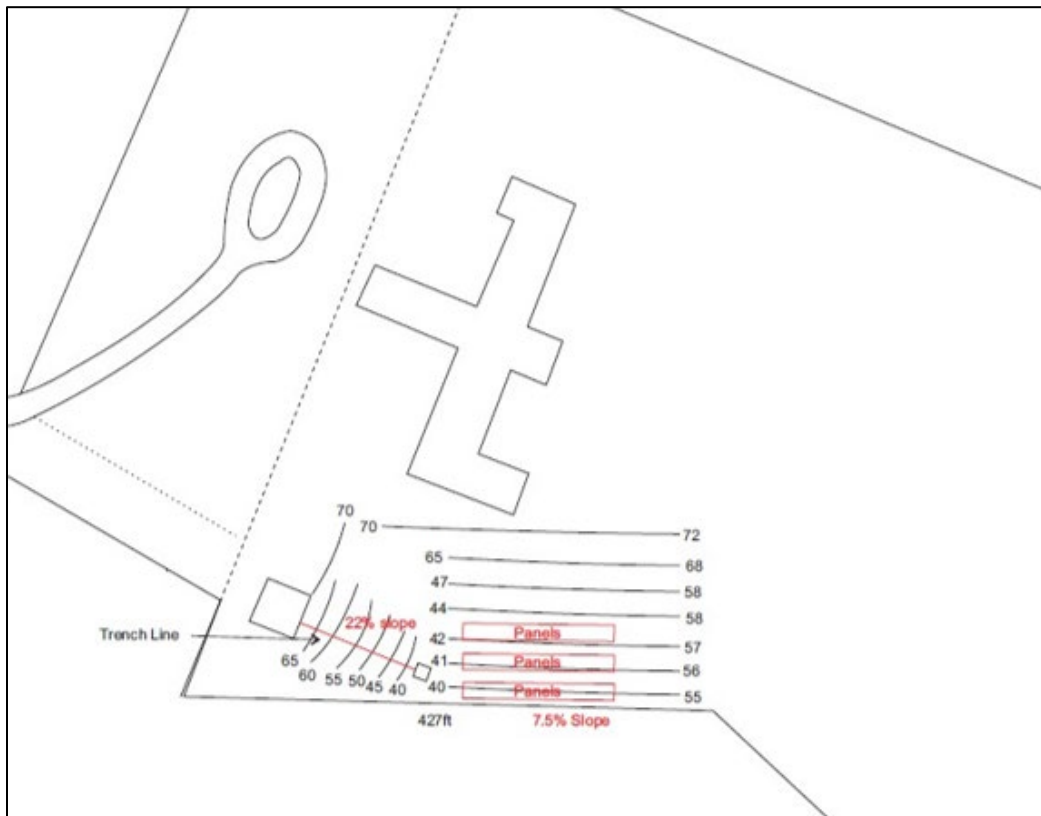


FIGURE 5 – Proposed location for solar panel installation.



## 2. SURVEY METHODS

On-site inspection, local maps, place-based knowledge, literature references, and Internet data searches were used during the preparation of the Biological Assessment for the Monastery solar array project. A preliminary conceptual site plan was provided by the land owner's agent (Figure 4 and Figure 5).

Floristic field survey methods utilized in the Biological Assessment of the project area conform to protocols outlined by the California Department of Fish and Wildlife (November 2009). The purpose of the statewide survey protocols is to facilitate a comprehensive, consistent and systematic approach for the identification of plants, natural communities and special status elements in project areas. The goal is to produce reliable information and maximize the potential for locating special status species and communities. The Biological Assessment also conforms to protocols for analysis outlined in Monterey County Zoning Ordinance Section 21.66.020, Standards for Environmentally Sensitive Habitats.

On-site field survey for the Biological Assessment of the project site focused on the following objectives:

- Identify and map natural communities.
- Locate and map special status plants and wildlife species.
- Identify and map significant biological features.
- Assess potential impacts to biological resources.
- Consider site conditions for potential restoration strategies, if needed.
- Consider recommendations to reduce or eliminate potential impacts to biological resources, if needed.

Botanical and habitat survey of the garden/apiary area was conducted on December 6, 2024. Prior to the December 6, 2024 field survey, California Department of Fish and Wildlife - California Natural Diversity Database (CNDDB) RareFind computer print-outs and BIOS maps were consulted for the general region around the Carmelite Monastery. CNDDB database information displays several records, or "element occurrences", of sensitive or special status species occurring along San Jose Creek, in State Park lands and the surrounding region. Specific habitat requirements for element occurrences in this general region do not occur in the Monastery solar project site, which has been heavily modified for some time by cultivation.

The project area is noted by the blue star on the attached CNDDB map (Figure 6) and element occurrences in the broader general vicinity are listed in Appendix A. In addition, a query of the California Native Plant Society web-based "Inventory of Rare and Endangered Vascular Plant Species" was consulted to identify occurrences of special status plants in the region and natural communities where the subject parcel is located. Although the CNDDB map depicts a green cross-hatched overlay of Monterey Pine Forest over the entire Monastery project site, no Monterey pines occur in the former garden/apiary. Monterey pines occur above the project site near the Monastery chapel and to the north and southeast on neighboring properties.

The December 2024 botanical survey and biological resource site inspection around and through the project area was conducted on foot. The December survey period was not optimal to record nesting birds or sensitive native plant species that could potentially occupy the project site, however the survey period was entirely appropriate for the identification of rare shrubs and

typical indicator plant and wildlife species common in the Monterey Pine Forest, Coast Live Oak Woodlands and Riparian habitat areas that occur near the solar project site.

Common names for plants and wildlife species are noted with scientific names when they are first mentioned in the text and thereafter only common names are used. Scientific nomenclature for plants described in this report follows conventions used in Matthews and Mitchell (2015), and Baldwin, et al (2012). A full plant list of species observed in the project area is included in Appendix B.

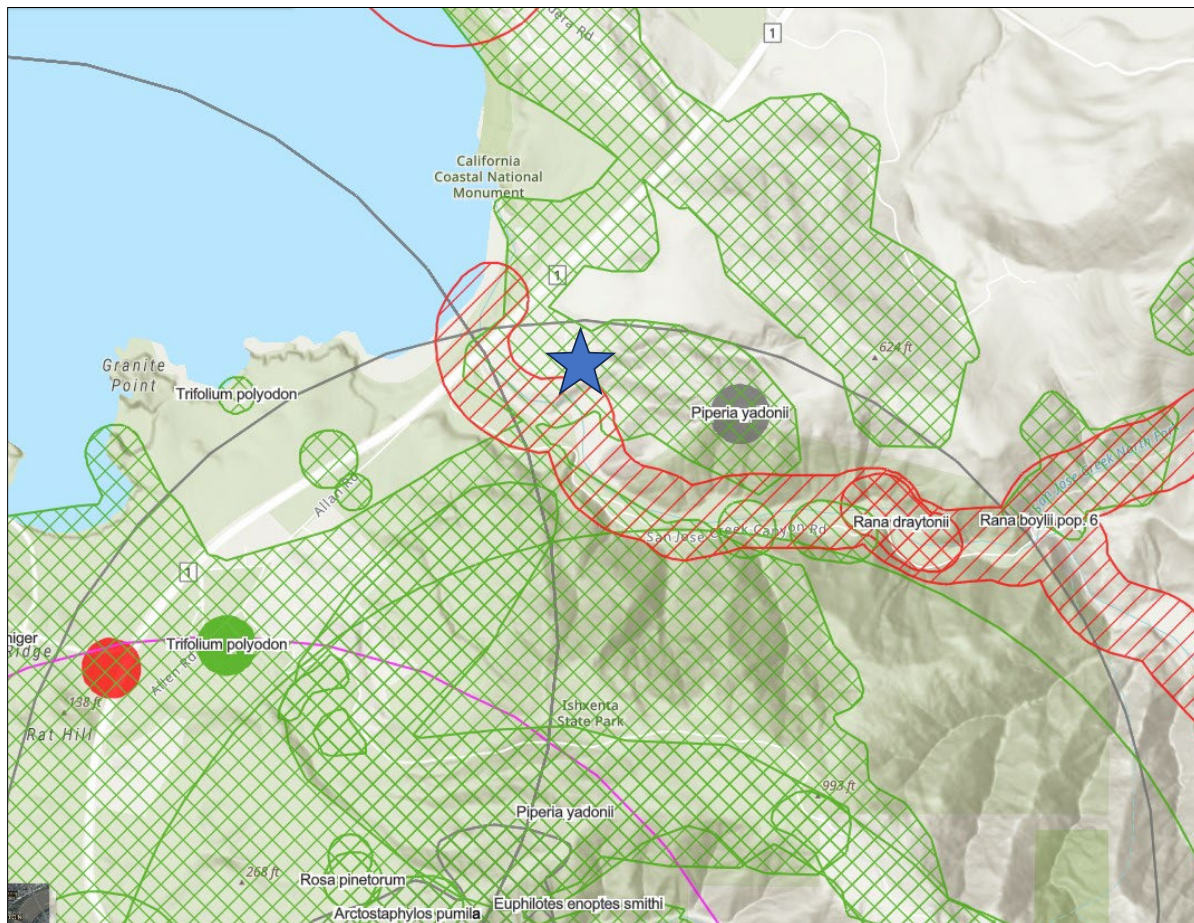


FIGURE 6 – CNDDDB map of sensitive habitats, plants and wildlife species in and around the Carmelite Monastery (December 2024 data). The Carmelite Monastery parcel is marked with the blue star. Green cross—hatch depicts Monterey Pine Forest and the red cross-hatched polygon signified Riparian and Aquatic habitat along San Jose Creek.

### 3. SURVEY RESULTS

Vegetation cover on the proposed project site is largely composed of weedy, non-native, ruderal habitat and horticultural species that reflect a long history of cultivation and disturbance. The project site includes patches of Cape ivy (*Delairea odorata*), pride-of-Madeira (*Echium candicans*), Kikuyu grass (*Pennisetum clandestinum*), mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), gopher purge (*Euphorbia lathyris*) and scattered French broom (*Genista monspessulana*), among other non-native species. A few native Douglas nightshade (*Solanum douglasii*), coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*) and patches of poison oak (*Toxicodendron diversilobum*) are widely scattered in the former garden area.

A habitat mosaic of Coast Live Oak Woodland, Coastal Scrub and Monterey Pine Forest occurs well outside the project area, with dense Riparian habitat flanking San Jose Creek to the south. Five seedling coast live oaks (*Quercus agrifolia*) were observed in and around the project footprint. These seedlings all were less than 0.75-inches in diameter measured two feet above ground level.

**Installation of the solar array on the flat, former garden area will not impact any natural habitat, trees, or sensitive biological resources.**

3.1. SPECIAL STATUS SPECIES: No sensitive or special status plants or animals listed by the California Native Plant Society, State of California, or the Federal Government as Rare, Threatened or Endangered were observed on the property.

**A. Animals:** No wildlife, other than evidence of gophers and several birds, was observed in the project area.

CNDDB mapping shown in Figure 6 for the vicinity of the subject parcel includes observations of California Red-legged Frog (*Rana draytonii*), Foothill Yellow-legged Frog (*Rana boylei*) and Steelhead (*Oncorhynchus mykiss*). All of these species occur within the Aquatic or Riparian habitat of San Jose Creek and are not expected to occur in, or near the project area. However, California Red-legged Frog, a Federally Threatened species, occasionally travels beyond breeding habitat and individual frogs could conceivably wander into the project site. A training program for construction workers and protocols for daily monitoring during construction are recommended in Section 4 below.

CNDDB also records a population of Smith's Blue Butterfly (*Euphilotes enoptes smithi*, Federally Endangered), Monarch butterfly roosting habitat (*Danaus plexippus*, Proposed Federally Threatened), and a nesting site of Black Swift (*Cypseloides niger*, Species of Special Concern) in the general vicinity and on State Park lands. Monarch butterflies do not have appropriate roosting habitat in the vicinity of the proposed solar array project and there is no suitable nesting site for Black Swift. There are no seacliff buckwheat plants (*Eriogonum parvifolium*) in the vicinity of the project area – these plants are required hosts for the Endangered butterfly. No sensitive wildlife or butterflies will be impacted by the proposed project.

**B. Plants:** Of note are the occurrences shown in green and gray circles with some cross-hatching on the regional CNDDB map in Figure 6. The circles depict several known locations of special status plants documented in Point Lobos State Reserve and the adjoining Ishxenta State Park: Yaden's rein-orchid (*Piperia yadonii*, Federally Endangered), Pacific Grove clover

(*Trifolium polyodon*, California Rare), pine rose (*Rosa pinetorum*, California Rare Plant Rank 1B2, rare, threatened, or endangered in CA and elsewhere) and sandmat manzanita (*Arctostaphylos pumila*, also California Rare Plant Rank 1B2). The project area does not have appropriate habitat conditions to support any of these uncommon species documented in nearby locations. The orchid is found in Maritime Chaparral or Monterey Pine Forest, as are the pine rose and sandmat manzanita, while the uncommon clover occurs in wet meadow grassland areas.

3.2. NESTING BIRDS: No nesting or roosting birds were observed during field work for this Biological Assessment. Dark-eyed Juncos and Golden-crowned Sparrows were seen foraging for seeds in the weedy habitat that characterizes the project area.

3.3. ENVIRONMENTALLY SENSITIVE HABITAT AREAS: The Monterey County Local Coastal Plan, which provides fundamental guidelines for development in the Carmel Area Land Use Planning Area and the Coastal Zone in this portion of Monterey County, provides a list of environmentally sensitive habitats that includes Riparian corridors, Monterey Cypress Forest, Gowen Cypress Woodland, significant stands of Monterey Pine, Coast Redwood Forest, North Coastal Prairie, and Maritime Chaparral (CA Coastal Commission, 2003). The Local Coastal Plan directs that these environmentally sensitive habitats should be protected for a variety of reasons: their high scientific and educational values, scenic values, high wildlife values and importance in watershed protection.

None of these unique, regional, environmentally sensitive habitat types occur in the proposed solar array site and sensitive habitat near the project area will not be impacted by the implementation of the proposed solar array project. Figure 7 is an aerial image from Google Earth, with a measurement of approximately 210-feet between the edge of the solar project site and nearby Riparian habitat along San Jose Creek.

3.4 OTHER CONSIDERATIONS: The proposed solar array project site is relatively flat. No development is proposed on slopes in excess of 25-percent and ground trenching for electrical conduit will not impact natural vegetation. There will be no visual impacts in the Critical Viewshed of Highway 1 or from public trails on adjoining State Park lands.

Figure 8 is a photograph of the Carmelite Monastery's former vegetable garden where the solar array installation is proposed and Figure 9 depicts the project area looking in a westerly direction.



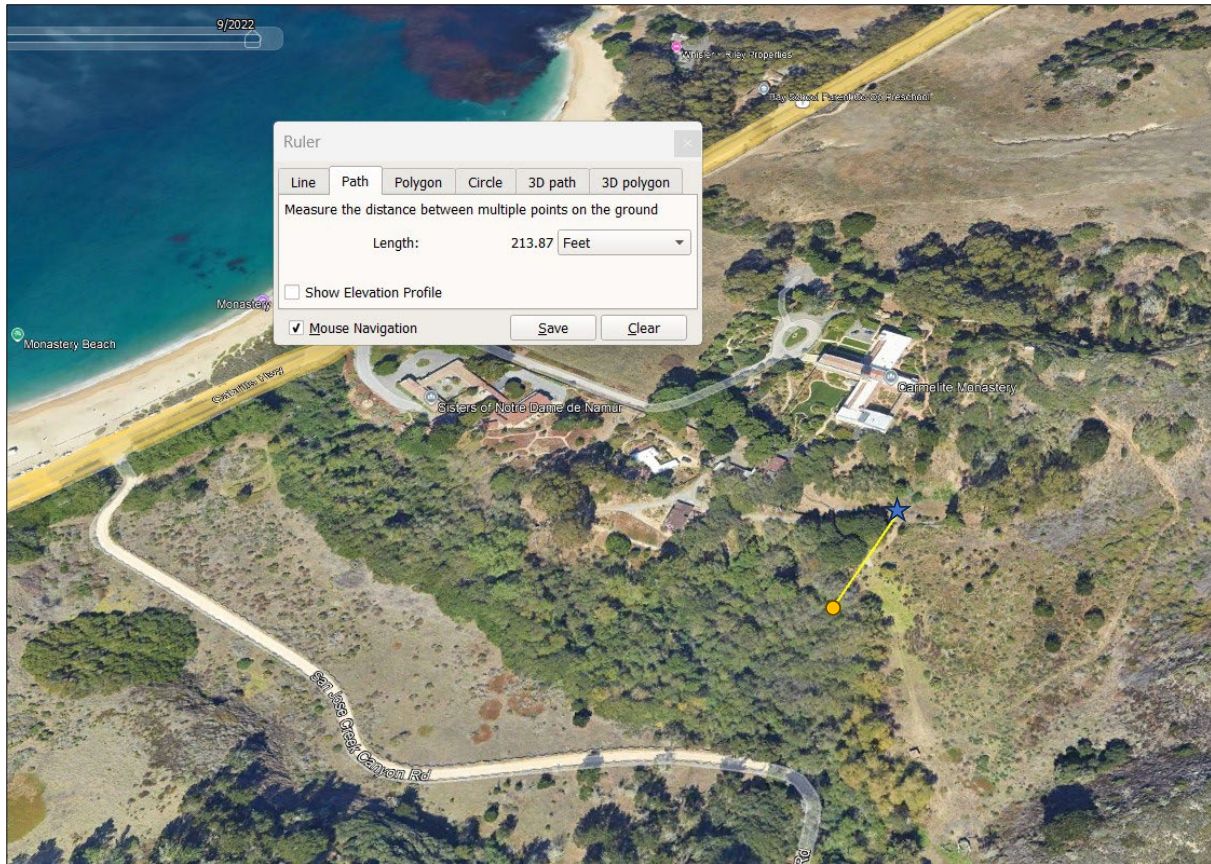


FIGURE 7 – Google Earth image of the Carmelite Monastery complex and environs, with a measurement of 213.87-feet between the edge of the solar array construction area (blue star) and nearby Riparian habitat along San Jose Creek (yellow circle).



FIGURE 8 – View of the proposed solar array construction site in former Monastery garden area, looking eastwards. The Monastery chapel is towards the left on the top of the slope above the old garden and State Park land is to the right of the photograph (December 6, 2024).





FIGURE 9 – View across solar project site, looking west. Note the small pump house near the oak canopy in the right-center portion of the photo. Ruderal vegetation in the foreground, San Jose Creek Riparian corridor just above center and Monterey Pine Forest on the ridge in the top left. (December 6, 2024)

#### 4. SUGGESTIONS TO REDUCE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH PROJECT IMPLEMENTATION

General resource management policies in the County of Monterey, Carmel Planning Area require that development activities, including vegetation removal, excavation, grading, filling and the construction of roads and structures, shall have a less than significant impact on special status plants, wildlife and natural communities. With the following specifications incorporated into this project, the development of the Carmelite Monastery solar array will have a less than significant impact on the project site and the surrounding environment.

4.1. COORDINATION: Include Project Biologist in pre-construction meetings to communicate biotic concerns and share information regarding the sensitivity and habitat preferences of California Red-legged Frog.



- 4.2. DAILY MONITORING: During site preparation and construction of the solar array, conduct daily inspections prior to commencing activity to determine whether California Red-legged Frogs could have wandered into the project area during the night. Inspect under equipment and staged materials where frogs may have sought refuge. Frogs are known to move through vegetation away from breeding sites, particularly during damp, foggy nights.
- 4.3. GEOTECH and ARCHAEOLOGICAL CONDITIONS: Conform to any conditions outlined in the Geotechnical, Soils or Archaeological Reports that are required. Erosion prevention Best Management Practices should be utilized during all phases of construction.
- 4.4. GRUBBED VEGETATION or FILL MATERIAL: All loose material, debris and grubbed weedy vegetation shall be removed from the work site. Care should be taken to very carefully remove highly invasive Cape ivy, French broom and pampas grass plumes so that no biomass or seed heads of these extremely invasive species remain on-site.
- 4.5. INVASIVE PLANTS: Maintain active and rigorous weed eradication to eliminate, or at least control invasive, non-native plant species in the former vegetable garden area. Attention should be focused on disturbed soil in the project area to remove undesirable invasive plants in the project area.
- 4.6. CONTROL DUST: Maintain a dust-free environment, to the extent possible, by sprinkling disturbed soil during site preparation and construction activities.
- 4.7. SEEDING POST-CONSTRUCTION: Soils disturbed during installation of the solar panels system should be seeded with an erosion control mix of native grass seed that includes blue wild rye (*Elymus glauca*), purple needle-grass (*Stipa pulchra*) and California brome (*Bromus carinatus*).

## 5. CONCLUDING REMARKS:

The installation of a solar array to serve the electrical needs of the Carmelite Monastery is proposed in a highly disturbed, fenced, former garden area that harbors a predominance of non-native, invasive plant species. No sensitive plants, habitats or animal species occur in the project area. With the recommendations suggested above, the proposed solar array project on a portion of the Carmelite Monastery grounds will have a less than significant impact on natural communities, viewsheds, plants and animals protected by local, state or federal regulations.

## REFERENCES

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- California Coastal Commission. December 2003. Draft Findings of the Monterey County LCP Periodic Review, Chapter 3: Environmentally Sensitive Habitat Areas.
- California Natural Resources Agency, Department of Fish and Wildlife. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. November 24, 2009. Sacramento, CA.
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- California Natural Diversity Database (CNDDB), Biogeographic Data Branch, Department of Fish and Game. Web-based mapping and element occurrence data.
- CNDDB Natural Communities Lists, Sept. 2010.  
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- Matthews, M.A. 1993. An Illustrated Field Key to the Flowering Plants of Monterey County. (2006 Version 1.1) California Native Plant Society. Sacramento, CA.
- Matthews, M.A. and M. Mitchell. 2015. The Plants of Monterey County. California Native Plant Society-Monterey Bay Chapter. Sacramento, CA.
- Sawyer, J.O., T. Keeler-Wolf, J.M. Evans. 2008 (updated regularly on-line). A Manual of California Vegetation. 2nd. Edition. California Native Plant Society and The California Department of Fish and Game. Sacramento, CA.

## APPENDIX A

### Federal or State Status and California Rare Plant Rank for Significant Natural Communities, Plants and Wildlife in the Vicinity of APN 243-1010-004

		STATUS			PREFERRED HABITAT	FOUND/ NOT FOUND
SCIENTIFIC NAME	COMMON NAME	FEDERAL	STATE	CA RANK		
NATURAL COMMUNITIES						
Riparian Habitat					Streams	NOT FOUND
Wetlands					Seeps, springs, damp areas	NOT FOUND
PLANTS						
Allium hickmanii	Hickman's onion			1B.2	Coastal Prairie	NOT FOUND
Arctostaphylos hookeri	Hooker's manzanita			1B.2	Maritime Chaparral	NOT FOUND
Arctostaphylos pumila	sandmat manzanita			1B.2	Maritime Chaparral	NOT FOUND
Castilleja ambigua var. insalutata	pink johnny-nip			1B.1	Wet Meadows, Vernal Pools	NOT FOUND
Microseris paludosa	marsh scorzonella			1B.2	Wet Meadows	NOT FOUND
Piperia yadonii	Yadon's rein-orchid	FE		1B.1	Maritime Chaparral, Monterey Pine Forest	NOT FOUND
Rosa pinetorum	pine rose			1B.2	Monterey Pine Forest	NOT FOUND
Trifolium polyodon	Pacific Grove clover		R	1B.1	Wet Meadows	NOT FOUND
ANIMALS						
REPTILES/FISH/AMPHIBIANS						
Anniella pulchra	CA Legless Lizard	Proposed	SC		Sandy soils, dunes	NOT FOUND
Clemmys marmorota	Western Pond Turtle	SC	CP, SC		Streams, creeks, ponds	NOT FOUND
Oncorhynchus mykiss irideus	Steelhead	T	SC		Streams	NOT FOUND
Phrynosoma coronatum frontale	CA Horned Lizard	SC	SC		Grassland, Chaparral, Coastal Scrub	NOT FOUND
Rana draytonii	CA Red-legged Frog	T	SC		Streams, ponds	NOT FOUND
Rana boylei	Foothill Yellow-legged Frog	T	E		Rocky streams	NOT FOUND
Taricha torosa torosa	Coast Range Newt		SC		Streams, ponds, Woodlands	NOT FOUND
MAMMALS						
Neotoma fuscipes luciana	Monterey Dusky-footed Woodrat	SC	SC		Coastal Scrub, Oak Woodlands/Forest, Chaparral, Riparian	FOUND
BIRDS						
Cypseloides niger	Black Swift	SC			Nests on rocky cliffs	NOT FOUND
INVERTEBRATES						
Danaus plexippus	Monarch Butterfly	Candidate E			Roosts in eucalyptus, pines; forages and oviposits on milkweed	NOT FOUND
Euphilotes enoptes smithi	Smith's Blue Butterfly	E			Coastal Scrub, Dunes	NOT FOUND

#### Abbreviations for Status Codes

E = Endangered

T = Threatened

SC = Species of Concern

R = Rare

FSS = Forest Service Sensitive Species

1B = CNPS List 1B, Plants rare, threatened or endangered in California and elsewhere

## APPENDIX B – PLANT LIST

Project Area – Carmelite Monastery, southerly portion of APN 243-101-004

Plant Species Observed on December 6, 2024

### Trees:

*Eucalyptus globulus*, blue gum \* (sprouts from cut stumps)  
*Quercus agrifolia*, coast live oak (four seedlings with DBH <0.75" measured 2 feet above grade)  
*Podocarpus* sp., podocarpus \* (one horticultural specimen outside the project area on the NW side)  
*Salix lasiolepis*, arroyo willow (one very small tree outside the project area on the NW side)

### Shrubs:

*Baccharis pilularis*, coyote brush  
*Diplacus aurantiacus*, sticky monkey flower  
*Echium candicans*, pride-of-Madeira \*  
*Frangula californica*, coffeeberry  
*Genista monspessulana*, French broom, or genista \*  
*Heteromeles arbutifolia*, toyon  
*Ribes* sp. (currant, not in bloom)  
*Salvia mellifera*, black sage  
*Solanum douglasii*, Douglas' poison nightshade  
*Toxicodendron diversilobum*, poison oak

### Herbaceous species:

*Brassica nigra*, black mustard \*  
*Carduus pycnocephalus*, Italian thistle \*  
*Carpobrotus chilense*, ice plant \*  
*Conium maculatum*, poison hemlock \*  
*Crocosmia* sp., crocosmia \*  
*Delairea odorata*, Cape ivy \*  
*Euphorbia lathyris*, gopher purge \*  
*Lysimachia arvensis*, scarlet pimpernel \*  
*Malva parviflora*, cheeseweed \*  
*Oxalis pes-caprae*, Bermuda buttercup \*  
*Raphanus sativus*, wild radish \*  
*Rumex acetosella*, sheep sorrel \*  
*Rumex crispus*, curly dock \*  
*Stachys bullata*, wood mint  
*Sonchus oleraceus*, common sow thistle \*  
*Tanacetum parthenium*, feverfew \*  
*Tetragonia tetragonoides*, New Zealand spinach \*  
*Vinca major*, periwinkle \*  
*Zantedeschia aethiopica*, calla lily \*  
misc. succulents \*

### Ferns, Grasses and Vines:

*Avena fatua*, wild oats \*  
*Convolvulus arvensis*, bindweed \*  
*Cortaderia jubata*, jubata or Pampas grass \*  
*Ehrharta erecta*, Veldt grass \*  
*Pennisetum clandestinum*, Kikuyu grass \*  
*Rubus ursinus*, wild blackberry

\* Indicates a non-native, horticultural or invasive species