Relocation Plan, prior to initiating ground disturbance. If the species is not found, no further action is needed.

Mitigation Measure BIO-4: Southern Tarplant and Coulters goldfields Preconstruction Surveys – Prior to the initiation of construction activities, a City approved biologist shall conduct preconstruction surveys for southern tarplant and Coulter's goldfields during the appropriate season for each species to determine final mitigation requirements. These surveys shall cover the entire project area as well as a buffer area of 100-feet outside the construction boundaries. If Coulters goldfields are detected in the Project impact area, then the Southern Tarplant Mitigation and Monitoring Plan will be amended to include mitigation for Coulter's goldfields at a 4:1 ratio at a location with suitable habitat for the species.

Any populations of Coulter's goldfields or southern tarplant within the 100 foot buffer zone or within the construction area that can be avoided, shall be demarcated with construction fencing. No vegetation clearing, ground disturbance, or other construction activities shall occur in the fenced areas or within 30 feet of any Coulter's goldfields.

Mitigation Measure BIO-5: Southern Tarplant Mitigation and Monitoring Plan – Prior to impacts to the southern tarplant in the Project site, a biologist, approved by the City, shall implement the measures contained in the Southern Tarplant Mitigation and Monitoring Plan (see Appendix F), which provides for replacement of the impacted 83 individuals at a ratio of 4:1, for a total of 332 individuals. However, if pre-construction surveys determine that total numbers of impacted individuals has changed, the total number of replacement individuals shall be adjusted accordingly at a 4:1 ratio. The plan identifies a candidate area of the Hellman Property where southern tarplant may be established and preserved in perpetuity. The plan includes provisions for seed collection, planting, performance standards for a five-year monitoring period, and contingency plans if the performance standards are not met.

3.4.5 Cultural Resources

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

This section analyzes impacts on historical and archeological resources in the Project site. Section 3.4.18 discusses the potential impacts of the proposed Project on Tribal Cultural Resources. The Project site has been previously assessed for cultural resources as part of past oil and gas development projects. The area that would require surface disturbance for the proposed Project would be approximately 4.57 acres. Appendix G provides a Cultural Resources Assessment Report for a Proposed Solar Array Project. This section presents a summary of the findings in the Cultural Assessment Report.

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? (Less Than Significant Impact)

A records search conducted at the South Central Coastal Information Center (SCCIC) at California State University at Fullerton failed to indicate the presence of any listed National Register of Historic Places or properties within a quarter-mile radius of the proposed Project area. Additionally, no California Historical Landmarks or California Points of Historical Interest properties were identified on the site or vicinity. The California State Historic Resource Inventory (HRI) lists no buildings in the vicinity that have been previously evaluated for historical significance. However, as discussed in section item (b) below, archaeological sites eligible for the California Register of Historical Resources (CRHR) may be present on the Hellman Ranch OGPF property. Sites eligible for the CRHR are considered historical resources under CEQA. As discussed in Response 5(b) below, implementation of Mitigation Measure CR-1 would reduce the potential impact below the level of significance.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5? (Less Than Significant Impact with Mitigation Incorporated)

Many archeological investigations have been conducted on the Hellman property over the past 50 years in support of both oil/gas and residential development. The most recent archeological field investigation was done in 2019 in support of a proposed gas plant approximately 320 feet southwest of the current project area (Wahoff 2019). As part of the 2019 study, a records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University at Fullerton. The results of this records search, including previous surface and subsurface investigations and known cultural resources, are discussed below.

Previous Surveys

The 2019 records search revealed that at least 18 previous cultural resources surveys or other archaeological investigations have been conducted within 0.25 mile of the current Project area, and that the entire Project area has been intensively surveyed for archaeological resources on at least four occasions (Archaeological Associates 1980; Rosenthal and Padon 1990; Stickel 1996; York and Willey 2004). None of these field surveys revealed any cultural resources within the Project area, although one (Archaeological Associates 1980) noted two dispersed scatters of marine shell (CA-ORA-850 and -851) located approximately 500 and 50 feet east and northeast of the Project area, respectively. Other cultural resources within 0.25 mile include CA-ORA-257, -258, and -259, all consisting of remnants of prehistoric shell middens along the crest of Landing Hill to the south of the Project area (Redwine 1958; Stickel 1996; Cleland et al. 2007); P-30-01544, a large but dispersed scatter of marine shell and artifacts located on the Boeing property immediately north of Adolfo Lopez Drive (Underwood 2000); and the Los Alamitos Pump Station, approximately 550 feet north of the Project area (Shepard 2002).

Previous Subsurface Investigations

Although several extensive archaeological excavations have been conducted along the crest of Landing Hill just to the south and east of the Project area (Cleland et al. 2007; Desautels 1981; Redwine 1958; Stickel 1996), subsurface investigation in the lower elevations within the Hellman Ranch OGPF have been limited to an unreported testing program at CA-ORA-851 by LSA Associates in 1990, and an exploratory archaeological trenching program by EDAW, Inc. in 2006.

LSA Testing at CA-ORA-851: In 1990, LSA Associates initiated an extensive subsurface testing program for a planned residential development on a portion of Landing Hill just to the east of the Project area. This testing program included several large prehistoric sites along the crest of the hill (CA-ORA-260, -261, -262, and -263), as well as site CA-ORA-851, which is located approximately 50 feet to the east of the present

Project area. Although the LSA testing program was never fully reported, York (2006) reported that field forms provided to EDAW, Inc. by LSA indicated that two 1-by-1 meter (m) test units were excavated at CA-ORA-851, both yielding only small amounts of marine shell. The shells were limited to the upper 20 centimeters (cm) of the deposit, in a highly disturbed context that also included imported fill and construction debris. Below this disturbed layer, according to the LSA field notes, were natural sediments containing no shells.

Exploratory Trenching by EDAW, Inc. (York 2006): In 2006, EDAW, Inc. conducted a program of exploratory archaeological trenching at various locations throughout the Hellman Ranch OGPF in support of a proposed underground tank farm replacement project (York 2006). A total of 31 trenches were excavated, including 20 along proposed pipeline alignments and 11 within the footprint of the proposed tank farm. Each trench measured approximately 10 m long and between 120 and 200 centimeters deep. Of the 31 trenches, 4 were placed within or immediately adjacent to the present Project area: trenches 1, 2, and 20 in the far southeastern portion, and Trench 6 in the northwestern portion.

Trench 1, placed at the northern boundary of CA-ORA-851, appears to confirm the field notes for the LSA excavations: the upper 40 cm is clearly disturbed and contains sand, gravel, sparse marine shell, and recent debris. Underlying this were apparently undisturbed alluvial or estuarine fine sand, silt, and clay sediments that contained no shell. On this basis, York (2006) concluded that CA-ORA-851 likely represents an artificial fill deposit composed in part from sediment dredged from nearby Alamitos Bay.

Cultural Resources within Project Area

A Cultural Resources Assessment was conducted for the proposed Project site (York 2023). This assessment was conducted in accordance with Section 15064.5(a)(2)-(3) of the CEQA, and the guidelines for preparation of archaeological reports by the Office of Historic Preservation. A copy of the cultural resources assessment is provided in Appendix G.

This assessment indicated that none of the several previous surveys that have included the Project area have revealed cultural resources. Moreover, of the seven cultural resources that have been previously recorded within 0.25 miles of the Project area, only one, CA-ORA-851, is closer than approximately 500 feet to areas subject to direct disturbance from the proposed solar array construction. This resource, a dispersed scatter of marine shell fragments, was subject to subsurface archaeological examinations in 1996 and 2006, both of which indicated that the deposit most likely represents recently imported fill materials. It would not be affected by the proposed solar array construction. Additionally, the rest of the 2006 exploratory trenching program designed to identify buried archaeological resources at various locations within the Hellman Ranch OGPF was entirely negative, including at several locations within the present Project area (York 2006).

These results indicate that the archaeological sensitivity of the Project area is generally low, at least in near-surface contexts, and that it is generally unlikely that cultural resources would be encountered during ground disturbance associated with the Project. However, as noted in previous studies, there is still some possibility that intact cultural resources could exist within the Project under recent alluvium or artificial fill (York 2023). Given this possibility, mitigation measures have been provided. Therefore, impact to cultural/archaeological resources would be less than significant with mitigation incorporated.

c. Disturb any human remains, including those interred outside of dedicated cemeteries? (Less Than Significant Impact)

There are no known human remains within the proposed Project site. As discussed above, the proposed Project site has been previously disturbed and is located within a lowland area of the Hellman Ranch OGPF

site, a context generally considered unsuitable for human burial. Therefore, it is unlikely that the proposed Project would disturb any human remains. Implementation of mitigation measure CR-1 would address the procedures to be followed in the unlikely event that human remains are discovered during the earth moving activities.

Avoidance, Minimization and/or Mitigation Measures

Mitigation Measure CR-1: Archeological Monitoring and Unanticipated Discovery Treatment Plan – Prior to issuance of a grading permit an Archeological Monitoring and Unanticipated Discovery Treatment Plan shall be submitted to the City Community Development Department for review and approval. The plan shall be prepared by a City approved archaeologist. The qualified archeologist shall coordinate with the Native American monitors during the preparation of the plan. The plan shall outline areas that will be designated Environmentally Sensitive Areas, if needed. Significant or unevaluated archaeological resources that are being avoided and are within 50 feet of the construction zone shall be designated as Environmentally Sensitive Areas. The resources shall be delineated with exclusion markers to ensure avoidance.

The plans shall specify the monitoring procedures, the field and laboratory methods that would be used for treatment of unanticipated discoveries, and the requirements for Native American participation in the monitoring and treatment activities. Procedures outlined shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The plan shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations.

The plan shall outline the protocols and procedures to be followed if human remains and associated funerary objects or grave goods are uncovered.

Mitigation Measure CR-2: Archaeological Monitoring – An archaeologist, approved by the City of Seal Beach, shall be present at the site during all ground disturbance activities.

3.4.6 Energy

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

The proposed solar PV project would use energy for both construction and operations. The main energy use for construction would be diesel fuel for construction equipment. The energy used for operation would be fuel for workers commuting to the site and for operation of a lawn mower. The 1.5 MW Solar PV Electrical System, which would interconnect with the Hellman Property's electrical infrastructure and operate in parallel with the utility grid to provide sustainable clean electrical energy in support of the