

7 Alternatives

7.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA §21002.1(a) states:

“The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.”

The CEQA Guidelines require an EIR to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Guidelines §15126.6(a)). The CEQA Guidelines direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the “rule of reason” which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6(e)(2)).

7.2 Criteria for Alternatives Analysis

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the project applicant for the proposed project include:

- Construct, operate and maintain an efficient, economic, reliable, safe and environmentally sound solar-powered electricity generating facility.
- Help meet California’s Renewable Portfolio Standard (RPS) requirements, which require that by 2030, California’s electric utilities are to obtain 50 percent of the electricity they supply from renewable sources.

- Generate renewable solar-generated electricity from proven technology, at a competitive cost, with low environmental impact, and deliver it to the local markets as soon as possible.
- Develop, construct, own and operate the Wister Solar Energy Facility, and ultimately sell its electricity and all renewable and environmental attributes to an electric utility purchaser under a long-term contract to meet California's RPS goals.
- Utilize a location that is in close proximity to an existing switching station and powerlines.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

7.3 Alternatives Considered but Rejected

7.3.1 Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

With respect to the proposed project, no significant, unmitigable impacts have been identified. With implementation of proposed mitigation, all potentially significant environmental impacts will be mitigated to a level less than significant.

The Applicant investigated the opportunity to develop the project site in the general project area and determined that the currently proposed project site is the most suitable for development of the solar facility. An alternative site was considered and is depicted on Figure 7-1. As shown, this site is located southeast of the project site on privately-owned agricultural lands. The site, located on APN 025-600-027, comprises approximately 126 acres of land.

However, this site was rejected from detailed analysis for the following reasons:

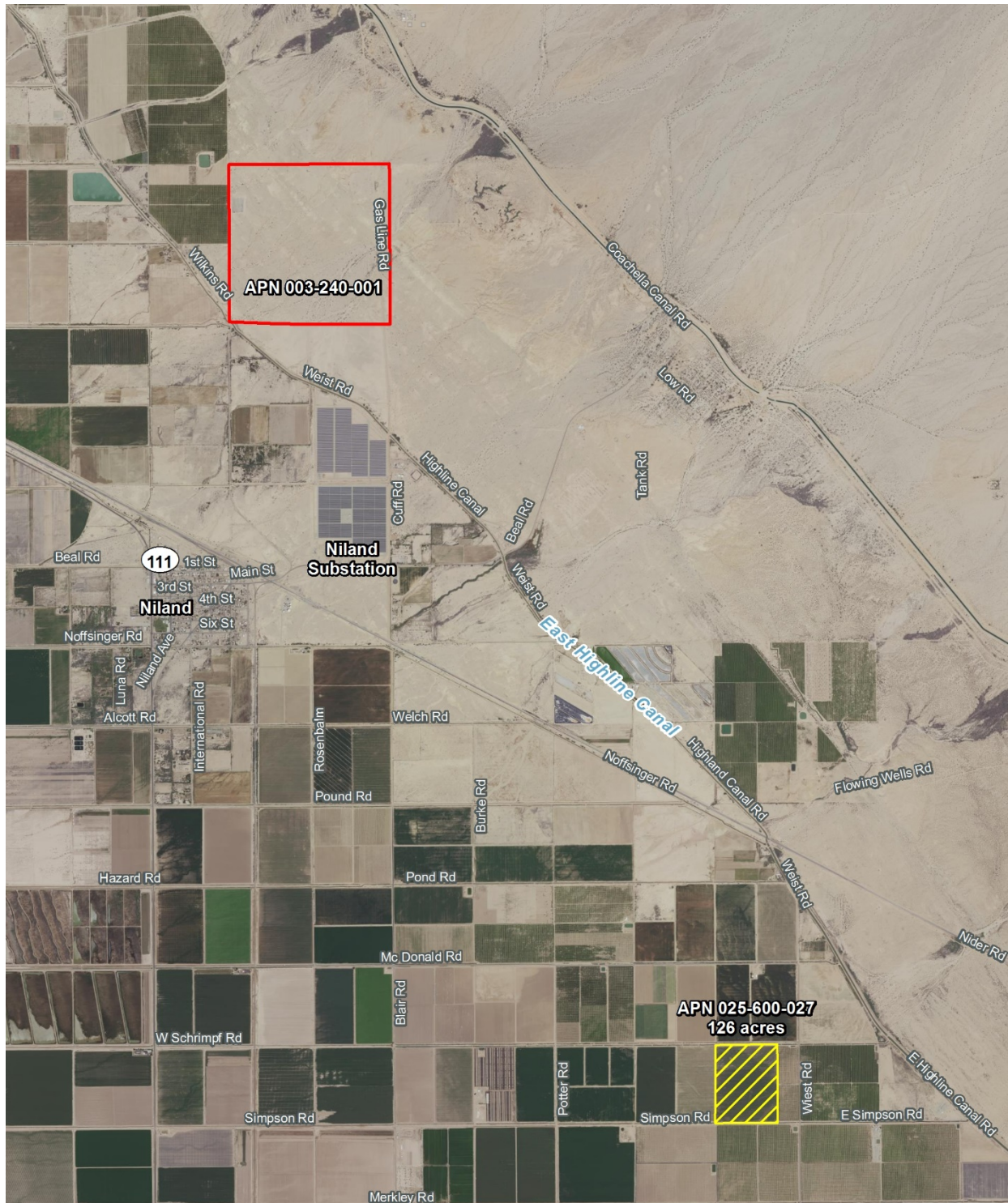
- The alternative location site, as compared to the proposed project site, is located on agricultural land. According to the farmland maps prepared by the California Department of Conservation (2017), the alternative site is designated as Prime Farmland and Farmland of Statewide Importance. Therefore, compared to the proposed project, the alternative site would result in potentially significant impacts associated with conversion of Important Farmland to non-agricultural uses.
- Burrowing owls were not present on the project site during the biological surveys. As the proposed project is not within the IID Service District, no IID canals or drains (which are very attractive to burrowing owls) are present within the project site. Compared to the proposed project site, the alternative site is located entirely on agricultural fields and surrounded on all sides by agricultural fields. Agricultural fields provide habitat for burrowing owl. Irrigation canals and drains are commonly used as burrowing nesting sites in the Imperial Valley. It is anticipated that the potential for burrowing owl to occur on the alternative site during construction and operations is greater compared to the proposed project site.





- No significant, unmitigated impacts have been identified for the proposed project. Construction and operation of the proposed project at this alternative location would likely result in similar impacts associated with the proposed project, or additional impacts (conversion of Important Farmland to non-agricultural uses) that are currently not identified for the project at the currently proposed location.

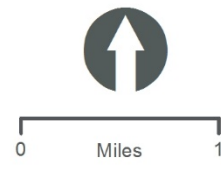
As such, the County considers this alternative location infeasible and rejects further analysis of this alternative because of the factors listed above.

Figure 7-1. Alternative Site



LEGEND

-  Project Site (Assessor Parcel No. 003-240-001)
-  Alternative Site (Assessor Parcel No. 025-600-027)



7.3.2 Original Site Plan Submittal

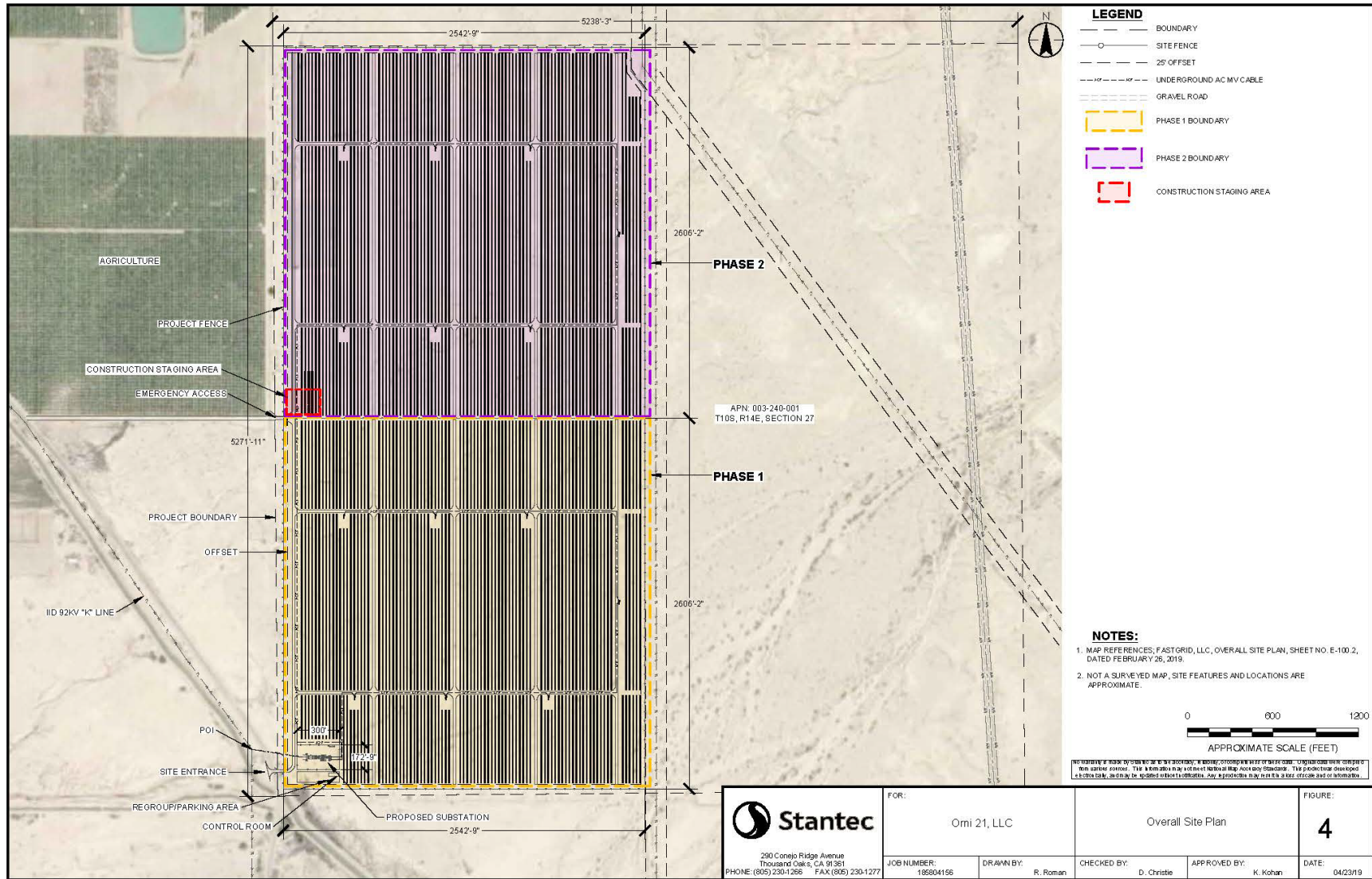
The project applicant originally proposed to construct and operate a 40 MW solar energy facility on approximately 300 acres within the western portion of the larger 640-acre project site parcel. The originally-proposed project was contemplated to be constructed in two phases (Figure 7-2). Each phase would have produced 20 MW of energy and cover approximately 146 acres. A Power Purchase Agreement (PPA) for 20 MW to San Diego Gas & Electric (SDG&E) was secured by the project applicant for the first phase of the project. The second 20 MW phase would not be constructed until the time that an additional PPA is secured. The remaining portion of the property would remain undeveloped in order to protect sensitive environmental resources.

Although this alternative would result in an increased power production capacity and greater GHG emission offset compared to the proposed project, the County rejects the Original Site Plan Submittal from further analysis due to increased biological resources impacts, increased jurisdictional waters impacts, and potential disturbance to known and unknown cultural resources.

As shown on Figure 3.4-1 (Section 3.4, Biological Resources), arrow weed thicket occur in the southwest portion of the project site (Phase I development area as shown on Figure 7-2). As shown on Figure 3.4-2 (Section 3.4, Biological Resources), the Phase I development area contains numerous braided ephemeral drainage channels, which could be considered federally and state jurisdictional. Based on this context, the Original Site Plan Submittal has the potential to impact a sensitive vegetation community and increased impacts on potentially jurisdictional waters compared to the proposed project. Further this alternative has the potential to disturb portions of a known cultural resource site.

This page is intentionally blank.

Figure 7-2. Original Site Plan



This page is intentionally blank.

7.4 Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e)(1), “the specific alternative of ‘no project’ shall also be evaluated along with its impact.” Also, pursuant to Section 15126.6(e)(2); “The ‘no project’ analysis shall discuss the existing conditions at the time the notice of preparation is published, ... at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

The No Project/No Development Alternative assumes that the project, as proposed, would not be implemented and the project site would not be further developed with a solar energy project. The No Project/No Development Alternative would not meet a majority of the project objectives.

7.4.1 Environmental Impact of Alternative 1: No Project/No Development Alternative

Aesthetics and Visual Resources

Under the No Project/No Development Alternative, the project site would not be developed and would continue to be undeveloped, partially disturbed land. The No Project/No Development Alternative would not modify the existing project site or add construction to the project site’ therefore, there would be no change to the existing condition of the site. Under this alternative, there would be no potential to create a new source of light or glare associated with the PV arrays. As discussed in greater detail in Section 3.2, Aesthetics and Visual Resources, the proposed project would result in a less than significant impact associated with introduction of new sources of light and glare. Under the No Project Alternative, no new sources of light, glare, or other aesthetic impacts would occur. Under this alternative, light, glare, and aesthetic impacts would be less compared to the project as the existing visual conditions would not change.

Air Quality

Under the No Project/No Development Alternative, there would be no air emissions associated with project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

As discussed in Section 3.3, Air Quality, the proposed project would not exceed the ICAPCD’s significance thresholds for emissions of ROG, CO, NO_x, and PM₁₀ during both the construction and operational phases of the project. Although no significant air quality impacts would occur, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD’s Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust.

This alternative would result in less air quality emissions compared to the proposed project, the majority of which would occur during construction.

Biological Resources

Under the No Project/No Development Alternative, existing biological resource conditions within the project site would largely remain unchanged and no impact would be identified. Unlike the proposed project which requires mitigation for biological resources including burrowing owl, other migratory birds, and potential jurisdictional waters, this alternative would not result in construction of a solar facility that could otherwise result in significant impacts to these biological resources. Compared to the proposed project, this alternative would avoid impacts to biological resources.

Cultural Resources

The proposed project would involve ground-disturbing activities that have the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. Under the No Project/No Development Alternative, the project site would not be developed and no construction-related ground disturbance would occur. Therefore, compared to the proposed project, this alternative would avoid impacts to cultural resources.

As discussed in Section 3.5, Cultural Resources, no tribes have responded that indicate the potential for traditional cultural properties or sacred sites on the project site. Therefore, the project is not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource. Impacts to tribal cultural resources under the No Project/No Development Alternative are similar to the proposed project.

Geology and Soils

Because there would be no development at the project site under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impact to project-related facilities as a result of local seismic hazards (strong ground shaking), soil erosion, and paleontological resources. In contrast, the proposed project would require the incorporation of mitigation measures related to strong ground shaking, soil erosion, and paleontological resources to minimize impacts to a less than significant level. Compared to the proposed project, this alternative would avoid significant impacts related to local geology and soil conditions and paleontological resources.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, there would be no GHG emissions resulting from project construction or operation or corresponding impact to global climate change. The No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of AB 32 (California Global Warming Solutions Act of 2006). While this alternative would not further implement policies (e.g., SB X1-2) for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change by providing renewable clean energy. For the proposed project, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the project would result in an overall beneficial impact to global climate change as the result of creation of clean renewable energy, that does not generated GHG emissions. Compared to the proposed project, while the No Project/No Development Alternative would not result in new GHG emissions during

construction, it would be less beneficial to global climate change as compared to the proposed project. Further, the construction emissions (amortized over 20 years) associated with the project would be off-set by the beneficial renewable energy provided by the project, negating any potential that the No Project/No Development alternative would reduce construction-related GHG emissions.

Hydrology/Water Quality

The No Project/No Development Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the proposed project, as the existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. Compared to the proposed project, from a drainage perspective, this alternative would avoid changes to existing hydrology. Compared to the proposed project, this alternative would not result in the placement of structures within a 100-year flood zone. Under this alternative, there would be no water demand and no groundwater well would be constructed. This alternative would have less of an impact associated with hydrology/water quality as compared to the proposed project.

Land Use Planning

As discussed in Section 3.9, Land Use Planning, the proposed project would not physically divide an established community or conflict with applicable plans, policies, or regulations.

Under the No Project/No Development Alternative, the project site would not be developed and continue to be undeveloped, partially disturbed land. Current land uses would remain the same. No General Plan Amendment, Zone Change, CUP, or Variance would be required under this alternative. No existing community would be divided, and no inconsistencies with planning policies would occur. Because no significant Land Use and Planning impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Transportation/Traffic

There would be no new development under the No Project/No Development Alternative. Therefore, this alternative would not generate vehicular trips during construction or operation. For these reasons, no impact would occur and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Although the proposed project would result in less than significant transportation/traffic impacts, this alternative would avoid an increase in vehicle trips on local roadways, and any safety related hazards that could occur in conjunction with the increase vehicle trips and truck traffic, primarily associated with the construction phase of the project.

Utilities and Service Systems

The No Project/No Development Alternative would not require the expansion or extension of existing utilities, since there would be no new project facilities that would require utility service. No solid waste would be generated under this alternative. The proposed project would not result in any significant impacts to existing utilities or solid waste facilities. Compared to the proposed project, this alternative would have less of an impact related to utilities and solid waste facilities.

Conclusion

Implementation of the No Project/No Development Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 3, Environmental Analysis when compared to the proposed project. A majority of these reductions are realized in terms of significant impacts that are identified as a result of project construction. However, this alternative would not realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the proposed project.

Comparison of the No Project/No Development Alternative to Project Objectives

The No Project/No Development Alternative would not meet a majority of the objectives of the project. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of AB 32 (California Global Warming Solutions Act of 2006).

7.5 Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands

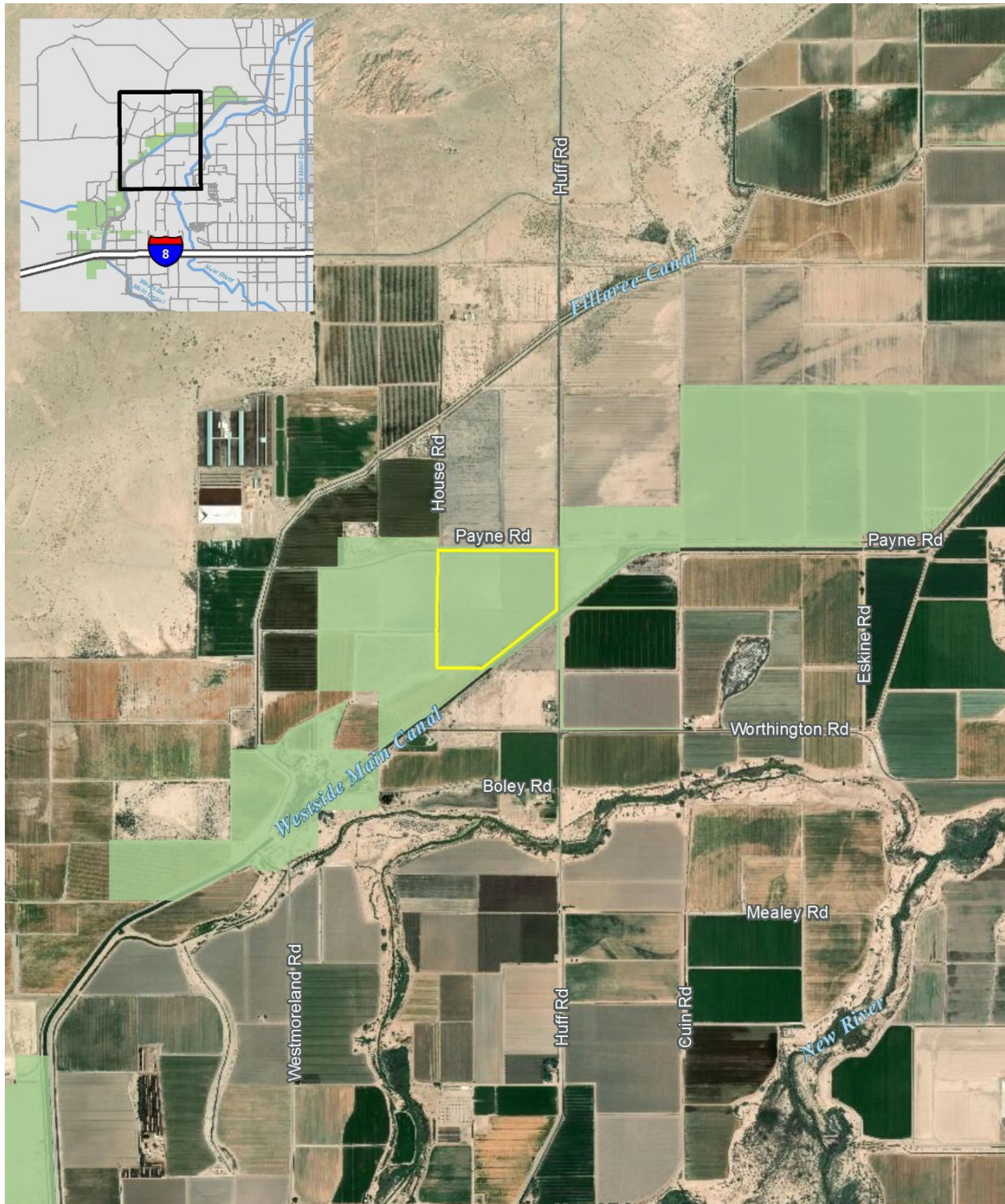
In certain cases, an evaluation of an alternative location in an EIR is necessary. Section 15126.6(f)(2)(A) of the CEQA Guidelines states, “Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.”

The purpose of this alternative is to develop the proposed project within the existing boundary of County’s RE Overlay Zone. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established areas.



As shown on Figure 7-3, the Alternative 2 project site is located entirely within the RE Overlay Zone. Alternative 2 would involve the construction and operation of a 20 MW solar energy facility and associated infrastructure on approximately 100 acres within a 130-acre parcel (APN 034-260-036) located approximately 4 miles northeast of the Dixieland area in unincorporated Imperial County. The Alternative 2 project site is designated as Agriculture under the County’s General Plan and zoned A-3 (Heavy Agriculture).

Similar to the proposed project, Alternative 2 would require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 2 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The A-3 zone allows a maximum height limit of 120 feet for non-residential structures. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed 120 feet.

Figure 7-3. Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands



LEGEND

-  Alternative 2 (Assessor Parcel No. 034-260-036)
-  Renewable Energy Overlay Zone



0 Feet 4,000

7.5.1 Environmental Impact of Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands

Aesthetics and Visual Resources

Compared to the proposed project site, the Alternative 2 project site is surrounded by agricultural lands. Similar to the proposed project, this would alter the existing visual character of the project site by changing the existing land use at the project site from undeveloped to a solar facility. The Alternative 2 project site is located approximately 3.5 miles northwest of the Naval Air Facility El Centro. Because of the proximity of the Naval Air Facility El Centro, there is a potential that this alternative could reflect significant levels of glare or glint upwards in a manner that could affect flight operations. Compared to the proposed project, this alternative could result in greater glare or glint impacts.

Air Quality

Similar to the proposed project, a 20 MW solar energy facility would be constructed on approximately 100 acres of land. Based on this consideration, this alternative would generate air emissions similar to the proposed project. As discussed in Section 3.3, Air Quality, the proposed project would not exceed the ICAPCD's significance thresholds for ROG, CO, NO_x, and PM₁₀ during construction and operation. Although no significant air quality impacts would occur, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. This alternative would result in similar air quality emissions as the proposed project. Similar to the proposed project, this alternative would result in temporary odor emissions from construction equipment.

Biological Resources

As discussed in Section 3.4, Biological Resources, burrowing owls were not present on the project site during the biological surveys. As the proposed project site is not within the IID Service District, no IID canals or drains (which are very attractive to burrowing owls) were present on site. Compared to the proposed project, the Alternative 2 site is located entirely on agricultural fields and surrounded on all sides by agricultural fields. Agricultural fields provide habitat for burrowing owl. Irrigation canals and drains are commonly used as burrowing nesting sites in the Imperial Valley. Mitigation would still be required for impacts to burrowing owl; however, the overall number of burrowing owl locations potentially impacted would be greater because their potential to occur on the Alternative 2 site is significantly higher than the proposed project site. Compared to the proposed project, development of this site would have greater impacts on burrowing owl.

Cultural Resources

This alternative would require the construction of supporting infrastructure (i.e., transmission towers, substation) that would require ground disturbance and therefore, has the potential to result in cultural and tribal cultural resources impacts. Compared to the proposed project, although this alternative would attempt to avoid cultural resources to the extent feasible, depending on the route of the proposed gen-tie line, this alternative could result in greater impacts on cultural and tribal cultural resources.

Geology and Soils

Grading and construction of new facilities, such as the solar facility and gen-tie line, would still occur under this alternative. Similar to the proposed project, this alternative would result in potentially significant impacts related to strong ground shaking, soil erosion, and paleontological resources and would require the incorporation of mitigation measures to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed project.

Greenhouse Gas Emissions

This alternative would result in the same power production capacity as the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would be the same. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This alternative would contribute similar and desirable benefits to reductions in global climate change through the production of renewable energy.

Hydrology/Water Quality

With implementation of the proposed mitigation measures, potential hydrology/water quality impacts under this alternative would be similar to those associated with the proposed project. Similar to the proposed project, no impacts would result from flooding and facilities will not be placed within floodplains.

Land Use Planning

Similar to the proposed project, Alternative 2 will require approval of a CUP to allow for the construction and operation of a solar project. However, the Alternative 2 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed the 120 feet height limit of non-residential structures in the A-3 Zone. Because this alternative would not require a General Plan Amendment, Zone Change, or Variance, Land Use Planning impacts are anticipated to be less than the proposed project.

Transportation/Traffic

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed project. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed project. In this context, Alternative 2 would not reduce or avoid an impact related to transportation/traffic, and would result in less than significant impacts similar to the proposed project. As with the proposed project, this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation/traffic as the proposed project.

Utilities and Service Systems

During construction of this alternative, impacts would be similar to the proposed project in terms of water demand (for dust control) and solid waste generation. Similar to the proposed project, Alternative 2 would require similar levels of water demand and energy for the operation of the solar facility. As with the proposed project, panel washing and other maintenance would be required. This alternative would have similar water demands and associated impacts related to utilities and service systems.

Conclusion

As shown on Table 7-1, this alternative would result in reduced land use impacts compared to the proposed project. This alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, biological resources, cultural resources, and tribal cultural resources.

Comparison of Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands to Project Objectives

Alternative 2 would meet most of the basic objectives of the proposed project and should remain under consideration. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, biological resources, cultural resources and tribal cultural resources. Because the Alternative 2 site is located on agricultural lands, this alternative would result in the conversion of agricultural land to non-agricultural uses. Compared to the proposed project, this alternative would result in additional impacts (conversion of agricultural land to non-agricultural uses) that are currently not identified for the project at the currently proposed location. Further, the project applicant does not own, or otherwise control this property.

7.6 Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands

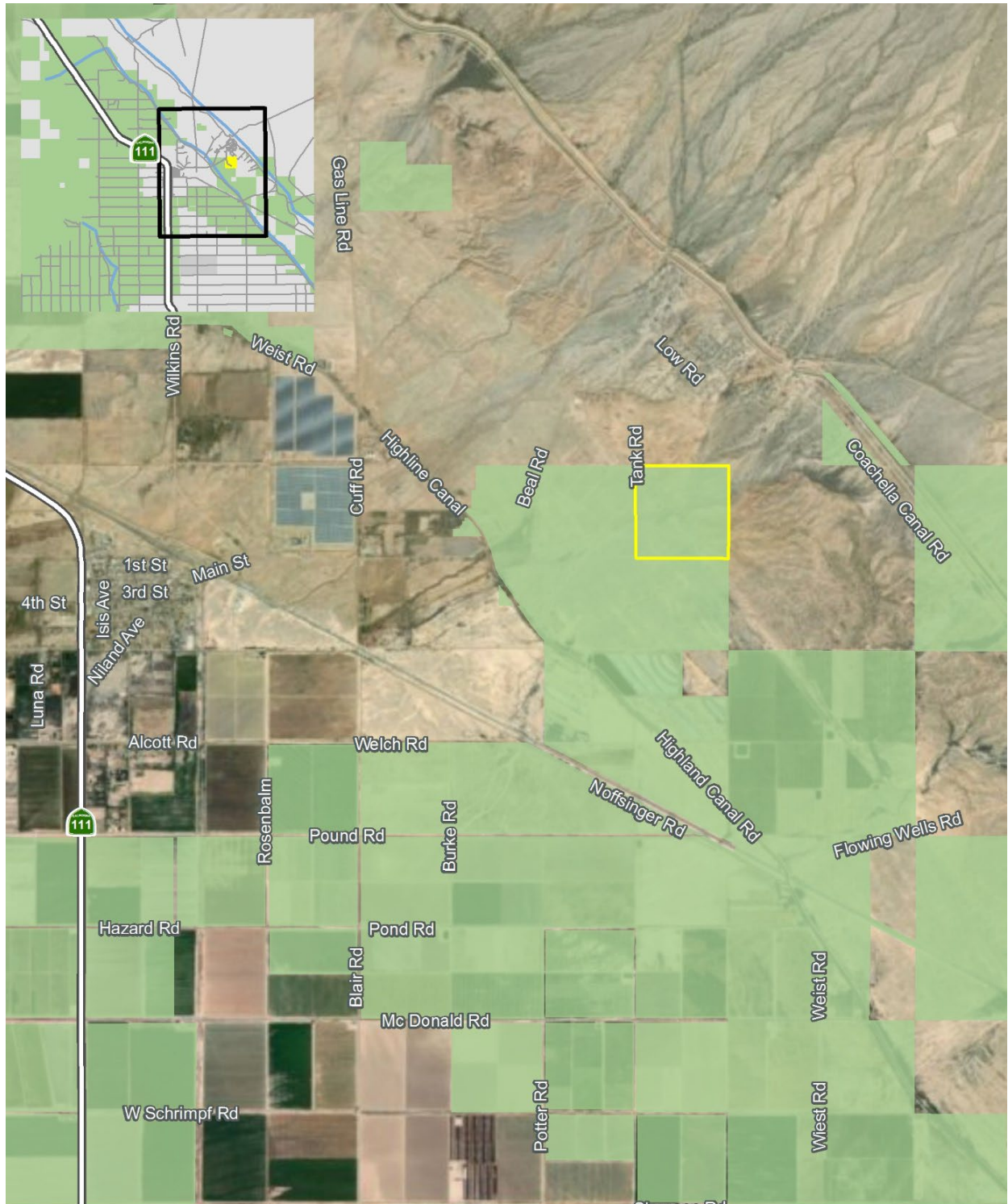
The purpose of this alternative is to develop the proposed project within the existing boundary of the County's RE Overlay Zone. As shown on Figure 7-4, the Alternative 3 project site is located entirely within the RE Overlay Zone. Alternative 3 would involve the construction and operation of a 20 MW solar energy facility and associated infrastructure on approximately 100 acres within a 161-acre parcel (APN 021-190-003) located approximately 0.5 mile south of Slab City. The Alternative 3 project site is located on undeveloped desert land. Existing transmission lines traverse the southwest corner of the project site.

The Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The Alternative 3 project site is designated as Recreation under the County's General Plan and zoned General Agricultural with a renewable energy overlay (A-2-RE).





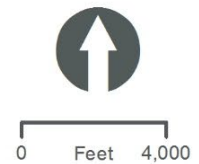
Similar to the proposed project, Alternative 3 will require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The A-2-RE zone allows a maximum height limit of 120 feet for non-residential structures. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed 120 feet.

Figure 7-4. Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands



LEGEND

-  Alternative 3 (Assessor Parcel No. 021-190-003)
-  Renewable Energy Overlay Zone



7.6.1 Environmental Impact of Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands

Aesthetics and Visual Resources

Similar to the proposed project site, the Alternative 3 project site is located on undeveloped desert land. However, the Alternative 3 project site is located in closer proximity (approximately 0.5 mile) to Slab City and Salvation Mountain. Slab City is a former military facility that now serves as the site of an informal community for artists, travelers, and winter-time RV campers. Salvation Mountain is an outdoor art project at the western entrance to Slab City. Both attract tourists and sight-seers. Therefore, the project components would be more readily visible to more people compared to the proposed project. Compared to the proposed project, this alternative could result in greater aesthetics impacts.

Air Quality

Similar to the proposed project, a 20 MW solar energy facility would be constructed on approximately 100 acres of land. Based on this consideration, this alternative would generate air emissions similar to the proposed project. As discussed in Section 3.3, Air Quality, the proposed project would not exceed the ICAPCD's significance thresholds for ROG, CO, NOx, and PM₁₀ during construction and operation. Although no significant air quality impacts would occur, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. This alternative would result in similar air quality emissions as the proposed project. Similar to the proposed project, this alternative would result in temporary odor emissions from construction equipment.

Biological Resources

As discussed in Section 3.4, Biological Resources, burrowing owls were not present on the project site during the biological surveys. As the proposed project site is not within the IID Service District, no IID canals or drains (which are very attractive to burrowing owls) were present on site. Compared to the proposed project site, the Alternative 3 site is located on the fringe of agricultural land. Agricultural fields provide habitat for burrowing owl. Irrigation canals and drains are commonly used as burrowing nesting sites in the Imperial Valley. Mitigation would still be required for impacts to burrowing owl; however, the overall number of burrowing owl locations potentially impacted would be greater because their potential to occur on the Alternative 3 site is higher than the proposed project site. Compared to the proposed project, development of this site would have greater impacts on burrowing owl. Further, this alternative has the potential to impact other sensitive plant and animals species associated with a relatively undisturbed desert setting.

The Alternative 3 site also contains desert washes and multiple braided channels. These features could be considered potentially jurisdictional waters. Similar to the proposed project, consultation would be required with USACE and CDFW to avoid or minimize impacts upon federally and state jurisdictional drainage features. This alternative would result in similar impacts related to potentially jurisdictional waters as the proposed project.

Cultural Resources

This alternative would require the construction of supporting infrastructure (i.e., transmission towers, substation) that would require ground disturbance and therefore, has the potential to result in cultural and tribal cultural resources impacts. While this alternative may avoid the specific impacts on the proposed project site, this alternative would also require the construction of supporting infrastructure that has the potential to result in cultural resources impacts. Compared to the proposed project, although this alternative would attempt to avoid cultural resources to the extent feasible, depending on the route of the proposed gen-tie line, this alternative could result in greater impacts on cultural and tribal cultural resources.

Geology and Soils

Grading and construction of new facilities, such as the solar facility and gen-tie line, would still occur under this alternative. Similar to the proposed project, this alternative would result in potentially significant impacts related to strong ground shaking, soil erosion, and paleontological resources and would require the incorporation of mitigation measures to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed project.

Greenhouse Gas Emissions

This alternative would result in the same power production capacity as the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would be the same. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This alternative would contribute similar and desirable benefits to reductions in global climate change through the production of renewable energy.

Hydrology/Water Quality

As discussed in Section 3.8, Hydrology/Water Quality, the proposed eastern access road that would connect to Gas Line Road is located in a 100-year flood zone (0.01 percent annual chance) (Zone A). The proposed eastern access road would not involve the addition of structures which could impede or redirect flood flows. In addition, the proposed access road would be constructed with an all-weather surface allowing runoff to continue to percolate into the ground. Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, and impacts would be less than significant.

According to the FEMA FIRM (06025C0450C), a portion of the Alternative 3 project site contains an area mapped as Zone A. Alternative 3 could place structures (i.e., PV arrays, substation, or transmission towers) within a 100-year flood zone and result in the redirection of flood flows on the project site. The Alternative 3 site also contains desert washes and multiple braided channels. Implementation of this alternative could potentially result in the modification of the existing drainage patterns and the volume of storm water runoff on the project site. Compared to the proposed project, this alternative would result in greater impacts related to hydrology/water quality.

Land Use Planning

Similar to the proposed project, Alternative 3 will require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed the 120 feet height limit of non-residential structures in the A-2-RE Zone. Because this alternative would not require a General Plan Amendment, Zone Change, or Variance, Land Use Planning impacts are anticipated to be less than the proposed project.

Transportation/Traffic

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed project. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed project. In this context, Alternative 3 would not reduce or avoid an impact related to transportation/traffic, and would result in less than significant impacts similar to the proposed project. As with the proposed project, this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation/traffic as the proposed project.

Utilities and Service Systems

During construction of this alternative, impacts would be similar to the proposed project in terms of water demand (for dust control) and solid waste generation. Similar to the proposed project, Alternative 3 would require similar levels of water service and energy for the operation of the solar facility. As with the proposed project, panel washing and other maintenance would be required. This alternative would have similar water demands and associated impacts related to utilities and service systems.

Conclusion

As shown on Table 7-1, this alternative would result in reduced land use impacts compared to the proposed project. This alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, cultural resources, tribal cultural resources, and hydrology/water quality.

Comparison of Alternative 3: Development within Renewable Energy Overlay Zone – Desert Land to Project Objectives

Alternative 3 would meet most of the basic objectives of the proposed project and should remain under consideration. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, cultural resources, tribal cultural resources, and hydrology/water quality. Further, the project applicant does not own, or otherwise control this property.

7.7 Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

This alternative would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities throughout Imperial County. Under this alternative, no new land would be developed or altered. Depending on the type of solar modules installed and the type of tracking equipment used, a similar or greater amount of acreage (i.e., greater than 100 acres of total rooftop area) may be required to attain the proposed project's capacity of 20 MW of solar PV generating capacity. This alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations.

This alternative would require hundreds of installation locations across Imperial County, many of which would require approval of discretionary actions, such as design review, CUPs, or zone variances depending on local jurisdictional requirements. Similar to the proposed project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. This alternative would involve the construction of transmission lines and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County to distribute the energy.

Rooftop PV systems exist in small areas throughout California. Larger distributed solar PV installations are becoming more common. An example of a distributed PV system is 1 MW of distributed solar energy installed by Southern California Edison on a 458,000 square-foot industrial building in Chino, California.¹

Similar to utility-scale PV systems, the acreage of rooftops or other infrastructure required per MW of electricity produced is wide ranging, which is largely due to site-specific conditions (e.g., solar insolation levels, intervening landscape or topography, PV panel technology, etc.). Based on SCE's use of 458,000-square feet for 1 MW of energy, approximately 9,160,000 square feet (approximately 210 acres) would be required to produce 20 MW.

7.7.1 Environmental Impact of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

Aesthetics and Visual Resources

This alternative would reduce the overall size of the solar energy field located in one place. However, this alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. There could be significant aesthetic impacts in certain areas depending on the locations of these facilities. Transmission lines would need to be constructed to serve the PV generation sites, all of which would be placed in closer proximity to urban areas, and all of which would

¹

<http://newsroom.edison.com/releases/california-regulators-approve-southern-california-edison-proposal-to-create-nations-largest-solar-panel-installation-program>

be more readily visible to more people as compared to the proposed project. Compared to the proposed project, this alternative could result in greater aesthetics impacts.

Air Quality

Under this alternative, air emissions due to project construction could be less than the proposed project on a localized level; however, PV facilities and supporting infrastructure would still need to be constructed to support this alternative, which, like the proposed project, would involve short-term construction emissions. These emissions would likely be spread-out geographically throughout the basin, and would occur over a longer period of time, as this alternative would involve a longer overall timeframe for implementation. Furthermore, the construction efficiencies that can be obtained by mobilizing equipment and crews in one general location over a shorter timeframe would not be realized. By the nature of the alternative, in that solar panels would be constructed on habitable structures throughout the County, this alternative has the potential to expose more people to more localized construction-related emissions. Compared to the proposed project, this alternative would develop less renewable energy megawatt generation in the near-future, thereby reducing its ability to provide a long-term source of renewable energy and meeting renewable energy goals, and air quality impacts could be greater than those of the project under this alternative.

Biological Resources

Under this alternative, potential direct and indirect impacts to burrowing owl and jurisdictional waters would be avoided as compared to the proposed project. However, this alternative would also require the construction of supporting infrastructure that has the potential to result in biological impacts. While this alternative may avoid the specific impacts associated with the proposed project, it could also result in greater biological impacts in other areas of the County where supporting infrastructure is required to support Distributed Energy facilities.

Cultural Resources

This alternative would require the construction of infrastructure that has the potential to result in cultural and tribal cultural resources impacts. If rooftop solar panels were proposed on historic buildings, this alternative could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically-significant structures. Compared to the proposed project, this alternative could result in greater impacts related to cultural and tribal cultural resources.

Geology and Soils

This alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. However, this alternative would still require grading and construction of new facilities such as transmission lines, PV structures, and supporting facilities (i.e., switching stations and substations) at various locations throughout the County. This alternative would likely result in similar impacts related to strong ground shaking, soil erosion, and paleontological resources as the proposed project. This alternative would also be subject to similar mitigation

measures as the proposed project to minimize impacts to a less than significant level. This alternative would result in similar geological and soil impacts.

Greenhouse Gas Emissions

Under this alternative, the project footprint would be reduced; however, in order to achieve the same megawatt capacity as the proposed project, this alternative would also involve a surface area similar in size to the project site. Therefore, while this alternative could reduce or eliminate GHG emissions during project construction at the project site, an equivalent level of GHG emissions is likely to occur, as a result of constructing solar panels and supporting infrastructure throughout the County. Furthermore, as a consequence of the reduced PV footprint associated with the utility-scale solar farm, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would also be reduced. As with the proposed project, this alternative would not conflict with any applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases. Compared to the proposed project, although this alternative would result in reduced construction emissions at the project site, overall, a similar level of emissions would be expected.

Hydrology/Water Quality

This alternative would likely avoid any impacts associated with modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce less impervious surface areas (this alternative would involve construction of PV facilities on existing structures and within existing developed areas). Also, this alternative would likely avoid any impacts to jurisdictional waters. Compared to the proposed project, this alternative would result in fewer impacts related to hydrology/water quality.

Land Use Planning

Similar to the proposed project, this alternative would not divide an established community and would involve multiple planning approvals (e.g., variances, CUPs, rezones) in order to accommodate the solar generating uses within other zones of the County that currently do not allow such uses. Compared to the proposed project, land use and planning impacts resulting from this alternative would be similar than those identified for the proposed project.

Transportation/Traffic

This alternative would not reduce or avoid an impact to transportation/traffic and would result in less than significant impacts similar to the proposed project. As with the proposed project, this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, substantially increase hazards due to a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation/traffic as the proposed project.

Utilities and Service Systems

As with the proposed project, this alternative would require water service and energy for the operation of the projects. This alternative would involve the construction of transmission lines and development

of additional supporting facilities, such as switching stations and substations at various locations throughout the County to distribute the energy. Compared to the proposed project, this alternative could require the relocation or construction of new or expanded supporting energy infrastructure throughout the County. Compared to the proposed project, impacts associated with utilities and service systems resulting from this alternative could be potentially greater than those identified for the proposed project.

Conclusion

As shown on Table 7-1, implementation of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative would result in reduced impacts for the following environmental issue areas as compared to the proposed project: hydrology/water quality. Overall, this alternative would result in greater impacts related to aesthetics, air quality, biological resources, cultural resources, tribal cultural resources, and utilities and service systems.

Comparison of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative would meet most of the basic objectives of the proposed project. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics, air quality, biological resources, cultural resources, and utilities and service systems. Furthermore, this alternative would have a number of drawbacks, including, but not limited to the following:

- Difficulties with respect to buildout of the system within a timeframe that would be similar to that of the proposed project;
- Given the distributed nature of such a network of facilities, management and maintenance would not be as efficient, and total capital costs would likely be higher;
- The requirement to negotiate with a large number of individual property owners to permit placement of solar panels on rooftops;
- The difficulty of ensuring proper maintenance of a large number of smaller solar installations; and
- The lack of an effective electricity distribution system for large numbers of small electricity producers.

7.8 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. As noted on Table 7-1, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the project. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown on Table 7-1, Alternative 2 and Alternative 3 would both result in less impacts on Land Use and Planning because they are located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. No Variance would be required under either of these alternatives because the proposed height of the transmission towers (70 feet)

would not exceed the 120 feet height limit of non-residential structures in the A-2-RE Zone or A-3 Zone. However, compared to the proposed project, the Alternative 2 site is located on agricultural lands and would result in the conversion of agricultural land to non-agricultural uses. Compared to the proposed project, this alternative would result in additional impacts (conversion of agricultural land to non-agricultural uses) that are currently not identified for the project at the currently proposed location. Based on these considerations, Alternative 3 is considered the Environmentally Superior Alternative.



Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Aesthetics and Visual Resources	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact
Air Quality	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact
Biological Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact
Cultural Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Geology and Soils	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact
GHG Emissions	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Potentially Significant <i>Comparison to Proposed Project:</i> Greater Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact
Land Use/Planning	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact



Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Transportation/ Traffic	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Utilities/Service Systems	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Greater Impact

Notes:

CEQA=California Environmental Quality Act; GHG=greenhouse gas

This page is intentionally blank.