SECTION 5: ALTERNATIVES TO THE PROPOSED PROJECT

5.1 - Introduction

In accordance with CEQA Guidelines Section 15126.6, this Environmental Impact Report (EIR) contains a comparative impact assessment of alternatives to the proposed project. The primary purpose of this section is to provide decision makers and the general public with a reasonable number of feasible project alternatives that could attain most of the basic project objectives, while avoiding or reducing any of the project's significant adverse environmental effects. Important considerations for these alternatives analyses are noted below (as stated in CEQA Guidelines Section 15126.6).

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:
  - Failure to meet most of the basic project objectives;
  - Infeasibility; or
  - Inability to avoid significant environmental effects.

5.1.1 - Significant Unavoidable Impacts

The proposed project would not result in any significant unavoidable impacts.

5.1.2 - Alternatives to the Proposed Project

The three alternatives to the proposed project analyzed in this section are as follows:

- **No Project Alternative:** Both project sites would remain in their existing conditions and no new development would occur.
- **25-Percent Reduction Alternative:** The total MW output at both sites would be reduced by 25 percent. The Grasslands site would include a 3.75-megawatt (MW) photovoltaic (PV) facility. The environmental education center at the Grasslands site would also be constructed but reduced in size by 25 percent, resulting in a 1,500-square-foot modular building and a 375-square-foot park host site. The Beamer/Cottonwood site would include a 0.6-MW PV facility.
- **PV Facility Only Alternative:** The proposed project would consist of a 5-MW PV facility at the Grasslands site and a 0.8-MW PV facility at the Beamer/Cottonwood site; the environmental education center would not be developed.

The three alternatives to the proposed project are analyzed below. These analyses compare the proposed project and each individual project alternative. In several cases, the description of the

impact may be the same under each alternative when compared with the CEQA Thresholds of Significance (i.e., both the project and the alternative would result in a less than significant impact). The actual degree of impact may be slightly different between the proposed project and each alternative, and this relative difference is the basis for a conclusion of greater or lesser impacts.

5.2 - Project Objectives

As stated in Section 2, Project Description, the objectives of the proposed project are to:

- Construct a solar energy facility that would assist the State in meeting its Renewable Portfolio Standard and goals aimed at reducing greenhouse gas (GHG) emissions.
- Further the State's efforts to achieve its goals for renewable energy generating capacity within its total energy portfolio.
- Assist in meeting the utility peak power load by adding solar power capacity, which has peak generation on sunny, hot summer days.
- Assist in achieving the State's 33-percent Renewable Energy Portfolio Standard and greenhouse gas emissions reduction objectives to the maximum extent possible based on the existing capacity of existing transmission line facilities.
- Locate solar power plant facilities as near as possible to electrical transmission facilities with anticipated capacity and reserved queue position.
- To the extent feasible, site the projects on disturbed or previously degraded land to avoid or minimize impacts to special-status species or habitat.
- Provide a permanent buffer area adjacent to the burrowing owl preserve located within the Grasslands Regional Park.
- Use a proven and available solar photovoltaic technology that qualifies as an Eligible Renewable Energy Resource pursuant to Public Utilities Code Section 399.12, Public Resources Code Section 25741, and the California Energy Commission's "Renewable Portfolio Standard: Eligibility Guidebook" (CEC, 2008).
- Construct solar facilities totaling 5.8MWs in size to meet the financial goals of a zero capital investment, annual revenue of approximately $250,000, and lifetime revenue of nearly $42 million over 35 years (Vernon, pers. comm.).
- Accommodate a mix of agricultural and non-agricultural uses by making the land underneath and between the solar panel array available for sheep grazing by undertaking a commercial sheep-grazing operation or other compatible agricultural crop production.
- Produce economic benefit by creating temporary construction jobs and reducing energy costs.

- Develop a unique education center for K-12 students to learn about environmental conservation and sustainability.
- Utilize a currently underutilized portion of the Grasslands Regional Park.
- Generate electricity to be used by Yolo County offices to reduce long-term electrical utility costs.

5.3 - Alternative 1 – No Project Alternative

Under the No Project Alternative, no development would occur and the project site would remain in its existing condition.

5.3.1 - Impact Analysis

The project site would remain in its existing condition and no changes would occur. The proposed project's significant unavoidable impacts would all be avoided, and its potentially significant impacts that can be mitigated to a level of less than significant would not occur.

5.3.2 - Conclusion

The No Project Alternative would have less impact on all environmental topical areas. This alternative would not advance any of the project objectives. Moreover, this alternative would not realize the project benefits of increased availability of renewable energy.

5.4 - Alternative 2 – 25-Percent Reduction Alternative

The 25-Percent Reduction Alternative would consist of the development of PV facilities at both the Grasslands and Beamer/Cottonwood sites. However, the total MW output at both sites would be reduced by 25 percent. The Grasslands site would include a 3.75-MW PV facility. The environmental education center at the Grasslands site would be constructed but would also be reduced in size by 25 percent, resulting in a 1,500-square-foot modular building and a 375-square-foot park host site. The Beamer/Cottonwood site would include a 0.6-MW PV facility.

The purpose of the 25-Percent Reduction Alternative is to reduce the area disturbed by the proposed project, which would lessen potential impacts associated with biological resources, cultural resources, and hydrology and water quality.

5.4.1 - Impact Analysis

Aesthetics, Light, and Glare

This alternative would result in the development of PV facilities and an environmental education center similar to that of the proposed project. The appearance of the resulting facilities would be similar to that of the proposed project; therefore, the underlying change in visual character and impacts to scenic vistas would be similar. Similar to the proposed project, this alternative would

result in less than significant light and glare impacts, although glare impacts would be slightly reduced, due to the reduced amount of PV panels. Overall, this alternative would have aesthetics, light, and glare impacts similar to the proposed project.

Agricultural Resources

This alternative would result in the development of a PV facility and an environmental education center similar to that of the proposed project. Similar to the proposed project, the PV facility at the Grasslands site would include experimental crop production and sheep grazing beneath the solar panels. This alternative would result in the land use changes similar to that of the proposed project and would not convert Important Farmland or conflict with a Williamson Act contract. As such, this alternative would result in agricultural impacts similar to those of the proposed project.

Air Quality

This alternative would result in a 25-percent decrease of the overall number of panels installed at both sites, and a 500-square-foot reduction in buildings at the Grasslands site relative to the proposed project. Construction activities would be similar to that of the proposed project, but reduced in magnitude as a result of the reduced amount of onsite construction. As such, this alternative's construction emissions would be slightly less than those of the proposed project. Despite the reduction in project size, operational emissions from vehicles would be similar to those of the proposed project, since the maintenance and educational trips of the facilities would remain substantially similar. However, this alternative would reduce the amount of NO_x offset by energy generated onsite. Therefore, this alternative would result in a slightly greater operational impact by offsetting fewer NO_x emissions. Similar to the proposed project, this alternative would not expose sensitive receptors to substantial diesel particulate matter emissions. Overall, this alternative would have air quality impacts similar to the proposed project.

Biological Resources

This alternative would result in a reduced amount of ground-disturbing activities at both project sites. Accordingly, while mitigation required for the proposed project to reduce impacts to Swainson's hawk, burrowing owl, nesting birds, and valley elderberry longhorn beetle, and a seasonal wetland swale would still be needed, this alternative would lessen the amount of ground disturbance and therefore the severity of impacts. As such, overall impacts to biological resources would be fewer than those resulting from the proposed project.

Cultural Resources

This alternative would result in a reduced amount of ground-disturbing activities at both project sites. As such, the potential to damage or destroy undiscovered cultural resources or burial sites would be reduced. While mitigation similar to that of the proposed project would be implemented to ensure that undiscovered resources would not be adversely affected, this alternative would lessen the amount of ground disturbance and therefore the severity of potential impacts. As such, overall impacts to cultural resources would be fewer than those resulting from the proposed project.

Geology, Soils, and Seismicity

This alternative would result in a reduced amount of ground-disturbing activities at both project sites. Construction activities would be similar to that of the proposed project, but reduced in area. No mitigation was required for the proposed project and no mitigation would be required for this alternative. Therefore, this alternative would have fewer geology, soils, and seismicity impacts than the proposed project.

Greenhouse Gas Emissions

This alternative would result in a 25-percent decrease of the overall number of panels installed at both sites, and a 500-square-foot reduction in buildings at the Grasslands site relative to the proposed project. Greenhouse gases generated by construction activities would be similar to those of the proposed project, but reduced in magnitude as result of the reduced amount of onsite construction. As such, this alternative's construction emissions would be slightly less than those of the proposed project. Despite the reduction in project size, operational emissions from vehicles would be similar to those of the proposed project, since the maintenance and educational trips of the facilities would remain substantially similar. This alternative would reduce the amount of greenhouse gases offset by energy generated onsite. However, this alternative would still offset greenhouse gas emissions generated by fossil-fueled energy production and would implement measures of Yolo County's Climate Action Plan. Overall, this alternative would have greenhouse gas impacts similar to the proposed project.

Hazards and Hazardous Materials

This alternative would result in a reduced amount of ground-disturbing activities at both project sites. However, the project sites and surrounding areas do not contain any recognized environmental constraints; therefore, this alternative would not be susceptible to hazards associated with past and present use. As with the proposed project, this alternative would not handle substantial quantities of hazardous materials, impair emergency response or evacuation, or create significant risk related to exposure to wildland fires. Impacts related to hazards and hazardous materials resulting from this alternative would be similar to the proposed project.

Hydrology and Water Quality

This alternative would result in a reduced amount of ground-disturbing activities at both project sites. Construction activities would result in ground disturbance that could cause stormwater pollution. While an SWPPP similar to that of the proposed project would be implemented to ensure that stormwater quality control measures are implemented during construction, this alternative would lessen the amount of ground disturbance and, therefore, the severity of potential impacts. Upon operation, this alternative would require slightly less water for solar panel washing. Overall, impacts to hydrology and water quality would be fewer than those resulting from the proposed project.

Land Use and Planning

The 25-Percent Reduction Alternative would develop PV facilities at both project sites and an environmental education center at the Grasslands site. Similar entitlements would be necessary, including use permits. Similar to the proposed project, this alternative would be consistent with applicable General Plans, the Yolo County Code, the City of Woodland Municipal Code, the Grasslands Park Master Plan, and the Yolo County Natural Heritage Program. As such, this alternative would have land use impacts similar to the proposed project.

Noise

Construction activities for this alternative would be slightly reduced in duration as a result of the reductions at each project site. While the proposed project's construction noise impacts were found to be less than significant, this alternative would result in shorter duration of construction noise and, therefore, would lessen the severity of impacts. The shorter duration of construction noise would reduce the overall temporary and periodic increase in ambient noise levels; however, mitigation similar to that of the proposed project would still be required. Operational noise at both project sites would be the same as those of the proposed project because of the passive operation of solar panels and similar level of activity at the environmental education center. Overall, noise impacts would be fewer than those resulting from the proposed project.

Public Services

Similar to the proposed project, this alternative would require minimal public services. Demands for police protection, fire protection, emergency medical services, and parks would be similar to those of the proposed project. As such, this alternative would result in public service impacts similar to those of the proposed project.

Recreation

This alternative would result in a 25-percent reduction in facilities constructed at the Grasslands site within the Grasslands Regional Park. Similar to the proposed project, this alternative would increase the use of Grasslands Regional Park, but would not be expected to lead to substantial physical deterioration or acceleration of such deterioration. Similar to the proposed project, the environmental effects resulting from the implementation of the environmental education center would be mitigated by implementation of mitigation measures proposed in this EIR. However, the benefit of the addition of recreational facilities at the Grasslands site would not be realized under this alternative. Overall, impacts to recreation resulting from this alternative would be similar to those of the proposed project.

Utilities and Service Systems

This alternative would result in a 25-percent reduction in the overall project size at each site. The reduction would be expected to result in less consumption of water because of the reduced need for water during construction and panel washing. Similar to the proposed project, this alternative would utilize a septic system for the park host and would not require wastewater conveyance or treatment.

Similar to the proposed project, this alternative would not result in a potentially significant impact and would not require mitigation, but would reduce the overall use of water. Therefore, this alternative would have fewer impacts on utilities and service systems than the proposed project.

5.4.2 - Conclusion

The 25-Percent Reduction Alternative would reduce the severity of impacts associated with biological resources, cultural resources, geology, hydrology and water quality, noise, and utilities and utilities. Otherwise, this alternative would have impacts similar to those of the proposed project.

This alternative would not further all of the project objectives to the same degree as the proposed project, because it would result in a reduced generation of renewable energy available for use by the County and for sale from the County to the power grid. As such, this alternative would not realize the energy production, emissions reductions, financial feasibility demands, and costs savings to same extent expected of the proposed project.

5.5 - Alternative 3 – PV Facility Only Alternative

The PV Facility Only Alternative would consist of a 5-MW PV facility at the Grasslands site and a 0.8-MW PV facility at the Beamer/Cottonwood site; the environmental education center and park host site would not be developed.

The purpose of the PV Facility Only Alternative is to reduce the area disturbed by the proposed project at Grasslands Regional Park, which would lessen potential impacts associated with air quality, biological resources, cultural resources, greenhouse gases, public services, recreation, and utilities.

5.5.1 - Impact Analysis

Aesthetics, Light, and Glare

This alternative would result in the development of PV facilities at each project site. The environmental education center and park host site would not be constructed at the Grasslands site. The PV facilities would be identical in appearance to those of the proposed project. Accordingly, the underlying change in visual character and impacts to scenic vistas at the Beamer/Cottonwood site would be the same as that of the proposed project. Compared with the 5-MW PV facility at the Grasslands site, the environmental education center and park host components are small and their removal from the project would not result in significant changes to the visual character of the site as compared to the proposed project. As such, this alternative would have aesthetics, light, and glare impacts similar to those of the proposed project.

Agricultural Resources

This alternative would not include the construction of the environmental education center or park host site at the Grasslands site. The proposed project's impacts to agricultural resources were determined to be less than significant and did not require mitigation. Similarly, this alternative's impacts would

be less than significant, regardless of the removal of the environmental education center. As such, this alternative would have agricultural impacts similar to the proposed project.

Air Quality

This alternative would not include the construction of the environmental education center or park host site at the Grasslands site. Construction activities would be similar to those of the proposed project, but reduced in magnitude as a result of the reduce amount of onsite construction. As such, this alternative's construction emissions would be slightly less than those of the proposed project. Operation emissions would also be similar to those of the proposed project, but reduced in magnitude because vehicle trips to and from the environmental education center would not occur. This alternative would have the same amount of NO_x offset by energy generated onsite as the proposed project. Similar to the proposed project, this alternative would not expose sensitive receptors to substantial diesel particulate matter emissions. Overall, this alternative would have fewer air quality impacts than the proposed project.

Biological Resources

This alternative would reduce the amount of ground-disturbing activities at the Grasslands site. Accordingly, while mitigation required for the proposed project to reduce impacts to Swainson's hawk, burrowing owl, nesting birds, and valley elderberry longhorn beetle, and a seasonal wetland swale would still be needed, this alternative would lessen the amount of ground disturbance, and therefore lessen the severity of impacts. As such, overall impacts to biological resources would be fewer than those resulting from the proposed project.

Cultural Resources

This alternative would result in a reduced amount of ground-disturbing activities at the Grasslands site. As such, the potential to damage or destroy undiscovered cultural resources or burial sites would be reduced. While mitigation similar to that of the proposed project would be implemented to ensure that undiscovered resources would not be adversely affected, this alternative would lessen the amount of ground disturbance and, therefore, would lessen the severity of potential impacts. As such, overall impacts to cultural resources would be fewer than those resulting from the proposed project.

Geology, Soils, and Seismicity

This alternative would result in a reduced amount of ground-disturbing activities at the Grasslands site because the environmental education center and related facilities would not be constructed. Construction activities would be similar to those of the proposed project but reduced in area at the Grasslands site. No mitigation was required for the proposed project and no mitigation would be required for this alternative. Therefore, this alternative would have fewer geology, soils, and seismicity impacts than the proposed project.

Greenhouse Gas Emissions

This alternative would not include the construction of the environmental education center or park host site at the Grasslands site. Greenhouse gas emissions from construction activities would be similar to those of the proposed project but reduced in magnitude as a result of the reduced amount of onsite construction. As such, this alternative's construction emissions would be slightly less than those of the proposed project. Operation emissions from vehicles would also be similar to those of the proposed project, but reduced in magnitude because vehicle trips to and from the environmental education center would not occur. This alternative would offset the same amount of greenhouse gases generated by fossil-fueled energy production as the proposed project. Overall, this alternative would have fewer greenhouse gas impacts than the proposed project.

Hazards and Hazardous Materials

This alternative would result in a reduced amount of ground-disturbing activities at the Grasslands site. The project sites and surrounding areas do not contain any recognized environmental constraints; therefore, this alternative would not be susceptible to hazards associated with past and present use. As with the proposed project, this alternative would not handle substantial quantities of hazardous materials, impair emergency response or evacuation, or create significant risk related to exposure to wildland fires. Impacts related to hazards and hazardous materials resulting from this alternative would be similar to those of the proposed project.

Hydrology and Water Quality

This alternative would result in a reduced amount of ground-disturbing activities at the Grasslands site. Construction activities would result in ground disturbance that could cause stormwater pollution. While an SWPPP similar to that of the proposed project would be implemented to ensure that stormwater quality control measures are implemented during construction, this alternative would lessen the amount of ground disturbance and, therefore, would lessen the severity of potential impacts. Upon operation, this alternative would require similar amounts of water for solar panel washing but would not require potable water to be provided to the park host site at the Grasslands site. Overall, impacts to hydrology and water quality would be fewer than those resulting from the proposed project.

Land Use and Planning

Similar to the proposed project, this alternative would be consistent with applicable General Plans, the Yolo County Code, the City of Woodland Municipal Code, and the Yolo County Natural Heritage Program. However, this alternative would not include the construction or operation of the environmental education center and related recreational amenities at the Grasslands site. As such, the project would not include any features to further the goals and policies of the Grasslands Park Master Plan and would not be consistent. As such, this alternative would have greater impacts to land use and planning than the proposed project.

Noise

Construction activities for this alternative would be slightly reduced in duration as a result of the removal of the environmental education center and related facilities from project plans. However, the majority of construction noise is related to installation of the PV facility, not the environmental education center. Furthermore, mitigation for the impact at the Beamer/Cottonwood site related to the overall temporary and periodic increase in ambient noise levels would still be required. Operational noises of the PV facilities at both project sites would be the same as those of the proposed project because of the passive operation of solar panels. However, under this alternative, noises resulting from the use of the environmental education center and related facilities would be eliminated. Overall, noise impacts would be fewer than those resulting from the proposed project.

Public Services

The PV Facility Only Alternative would not implement the environmental education center and related facilities and would therefore significantly decrease the amount of site usage and access. As such, demands for police protection, fire protection, and emergency medical services would be reduced compared with those of the proposed project. As such, this alternative would result in fewer public service impacts than those of the proposed project.

Recreation

The PV Facility Only Alternative would not implement the environmental education center and related facilities. As such, increased use of Grasslands Regional Park would not be expected. While the proposed project's impacts to recreational facilities were found to be less than significant, this alternative would not result in any impacts to recreation. As such, this alternative would have fewer impacts on recreation that those of the proposed project.

Utilities and Service Systems

The PV Facility Only Alternative would not implement the environmental education center and related facilities. As such, this alternative would demand fewer resources and generate less waste. Therefore, this alternative would have fewer impacts on utilities and service systems than the proposed project.

5.5.2 - Conclusion

The PV Facility Only Alternative would reduce the severity of impacts associated with air quality, biological resources, cultural resources, geology, greenhouse gases, hydrology and water quality, noise, public services, recreation, and utilities. The PV Facility Only Alternative would result in greater impacts to land use. Otherwise, this alternative would have impacts similar to that of the proposed project. This project would not further all of the project objectives because it would not include an environmental education center and related facilities. As such, this alternative would not develop a unique education center for K-12 students to learn about environmental conservation and

sustainability and would not fully utilize a currently underutilized portion of Grasslands Regional Park.

5.6 - Environmentally Superior Alternative

The qualitative environmental effects of each alternative in relation to the proposed project are summarized in Table 5-1.

Table 5-1: Summary of Alternatives

Environmental Topic Area	No Project Alternative	25-Percent Reduction Alternative	PV Facility Only Alternative
Aesthetics, Light, and Glare	No Impact	Similar Impact	Similar Impact
Agricultural Resources	No Impact	Similar Impact	Similar Impact
Air Quality	No Impact	Similar Impact	Less Impact
Biological Resources	No Impact	Less Impact	Less Impact
Cultural Resources	No Impact	Less Impact	Less Impact
Geology, Soils, and Seismicity	No Impact	Less Impact	Less Impact
Greenhouse Gases	Less Impact	Similar Impact	Less Impact
Hazards and Hazardous Materials	No Impact	Similar Impact	Similar Impact
Hydrology and Water Quality	No Impact	Less Impact	Less Impact
Land Use	No Impact	Similar Impact	Greater Impact
Noise	No Impact	Less Impact	Less Impact
Public Services	No Impact	Similar Impact	Less Impact
Recreation	No Impact	Similar Impact	Less Impact
Utilities and Service Systems	No Impact	Less Impact	Less Impact

CEQA Guidelines Section 15126(e)(2) requires an EIR to identify an environmentally superior alternative. If the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

As shown in Table 5-1, the No Project Alternative would avoid significant environmental impacts across all topical areas and, therefore, would be the environmentally superior alternative. Therefore, pursuant to the CEQA Guidelines, an environmentally superior alternative must be selected from the remaining three alternatives.

In this case, the 25-Percent Reduction Alternative would result in less impact in six topic areas. However, the PV Facility Only Alternative would result in less impact in 10 topic areas and greater impact related to land use. The increased impact to land use is a result of not constructing the environmental education center and related recreational facilities at the Grasslands site, thereby

rendering the project inconsistent with the Grasslands Park Master Plan. However, in this respect, inconsistency with the Grasslands Park Master Plan would not result in physical environmental impacts beyond that of the constructing the PV facility. As such, with fewer impacts in 10 other topic areas, the PV Facility only alternative would be the environmentally superior alternative other than the No Project Alternative. While the PV Facility Only Alternative would accomplish most of the basic objectives of the proposed project related to the generation of renewable energy, this alternative would not meet objectives related to the provision of educational opportunities.

5.7 - Alternatives Rejected From Further Consideration

CEQA Guidelines Section 15126.6(c) states that EIRs should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, along with the reasons underlying the determination.

5.7.1 - Alternative Location

The following discussion will first describe the CEQA requirements for evaluation of alternative project locations and then evaluate potential alternative locations.

CEQA Guidelines Section 15126.6(f)(2) sets forth considerations to be used in evaluating an alternative location. The section states that the "key question" is whether any of the significant effects of the project would be avoided or substantially lessened by relocating the project. The CEQA Guidelines identify the following factors that may be taken into account when addressing the feasibility of an alternative location:

1) Site suitability
2) Economic viability
3) Availability of infrastructure
4) General Plan consistency
5) Other plans or regulatory limitations
6) Jurisdictional boundaries
7) Whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site.

The CEQA Guidelines establishes that only locations that would accomplish this objective should be considered.

As part of the site selection analysis, the Yolo County General Services Facilities and Parks Department previously considered the location of a PV facility and education center at the Yolo County Central Landfill. However, after further consideration, a PV facility and education center at this site were determined to have insufficient economic value, based on a Financing Plan prepared by Government Financial Strategies, Inc. Economic infeasibility included the requirement of

approximately $1 million in infrastructure upgrades to provide an interconnection to PG&E facilities for a 2-MW PV facility. Infrastructure upgrade costs for a 5-MW PV facility and education facility, as preferred, would be approximately $4 to $5 million. In addition to financial constraints associated with this rejected alternative, aesthetics and air quality (i.e., odors) issues associated with a location adjacent to the city landfill were also considered in conjunction with a desire to develop a unique education center for K-12 students to learn about environmental conservation and sustainability while utilizing a currently underutilized portion of Grasslands Regional Park. As such, the alternative landfill location was not pursued, as it was not economically feasible, nor did it effectively meet education goals associated with Grasslands Regional Park and would not allow for the MW size required because of infrastructure limitations.