CHAPTER 5.0 MITIGATION MONITORING AND REPORTING PROGRAM

5.1 INTRODUCTION

This document is the Final Mitigation Monitoring and Reporting Program (FMMRP) for the Campo Verde Solar Project. This FMMRP has been prepared pursuant to California Public Resources Code §21081.6, which requires public agencies to "adopt a reporting and monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." A Final MMRP is required for the proposed project because the EIR identified significant adverse impacts and mitigation measures have been identified to address these impacts. The numbering of the individual mitigation measures follows the numbering sequence as found in the EIR. All revisions to mitigation measures that were necessary, as a result of responding to public comments and incorporating staff-initiated revisions have been incorporated into this FMMRP.

5.2 MITIGATION MONITORING AND REPORTING PROGRAM

The FMMRP, as outlined in the following table, describes mitigation timing, monitoring responsibilities, and compliance verification responsibility for all mitigation measures identified in this Final EIR. The County of Imperial will be the primary agency, but not the only agency responsible for implementing the mitigation measures. In some cases, other public agencies will implement measures. In other cases, the project applicant will be responsible for implementation of measures and the County's role is exclusively to monitor the implementation of the measures. In such cases, the project applicant may choose to require the construction contractor to implement specific mitigation measures prior to and/or during construction. The County will continue to monitor mitigation measures that are required to be implemented during the operation of the project.

The FMMRP is presented in tabular form on the following pages. The components of the FMMRP are described briefly below:

Mitigation Measures: The mitigation measures are taken from the Draft EIR, in the same order that they appear in the Draft EIR. The Final MMRP contains revisions to mitigation measures, as well as any new mitigation measures.

Mitigation Timing: Identifies at which stage of the project mitigation must be completed.

Monitoring Responsibility: Identifies the department within the County, project applicant, or consultant responsible for mitigation monitoring.

Compliance Verification Responsibility: Identifies the department of the County or other State agency responsible for verifying compliance with the mitigation. In some cases, verification will include contact with responsible state and federal agencies.

5.0	MITIGATION MONITORING AND REPORTING PROGRAM	
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<u> </u>	of Imperial	Campo Verde Solar Project

MM #					Mitigat	ion Measure	2					Monitoring Responsibility	Timing	Verification (Date and Initials)
AESTHETICS	1													
MM 4.1.2	Prior to issuance of construction permits, the Applicant shall work with affected landowners and ICPDS to develop a visual screening program that will screen views of the project from KOP #2, #7, #8 and #9, if determined to be needed by each landowner. The extent of screening shall be determined for each KOP in consultation with the school and/or residents, ICPDS and the Applicant. If vegetative screening is used, xeriscape plants shall be selected from the "Imperial County Xeriscape Guide and Map." Initial xeriscape planting, if desired by the landowner, shall be the responsibility of the Applicant. Landscape maintenance to check the health of the plants shall be performed by the landowner or Applicant, as needed and as determined by the agreement between the two parties.													
TRANSPORT	ATION AND CIRCUI	ATION											L	
MM 4.3.3	If all cumulative contribution towa 1) The fair share that is signific At the inters share respon 4.3-29). LOS Impact Analy Appendix B of	ard nece e partice cantly lection sibility and tesis. Th	essary icipation nigher to of Formis 6.2% fair sha is docu	mpro h is ba than t rester and (are ca ment	ovements ased on t the project Road at 0.5% whe alculation is provid	as follows: he project's ct's traffic vo : I-8 eastbo n based on s are includ	tempolume und ra perma led in ttache	orary after amp, nent Appe	construction completion completion con contraction con	ction traffiction of consistruction transfer to the consistence of the	c volume struction. raffic fair es (Table ft Traffic	Imperial County Planning and Development	Intersection must meet failing conditions during the project's	
	Cumulative Impact Location	Peak Hour	2013	Cumulat	ject Plus ive	Recommended Mitigation	2013	Cumulat	oject Plus tive	Fair Share % Construction Traffic	Fair Share % Operations	Services.	construction period.	
	Forrester Road at I-8	AM	Delay 17.9	LOS	None None	Install Traffic	Delay 12.1	LOS B	None None	6.2%	Traffic 0.5%			
	eastbound ramp Source: LOS, 2012. Notes: 1) Delay – HCM Average 2) The project the entire construores at all operate at all	fair sha uction	are respond.	oonsi If th	bility sha e intersed	ll be validate	ted at ester l	mon Road/	ith 7 an /I-8 EB F	cific) d yearly du amp is calc	uring the			

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	the fair share amount based on project construction traffic. If the intersection of Forrester Road/I-8 EB Ramp is calculated to operate at acceptable LOS, then the Applicant should not be required to pay the fair share amount because the intersection would be documented to operate at acceptable LOS.			
AIR QUALIT	Υ			
MM 4.4.1a	 The following mitigation requirements shall be implemented to reduce construction related PM₁₀ impacts to a level below significance during worst-case construction: Apply water during grading/grubbing activities to all active disturbed areas as needed to comply with the project's Dust Control Plan and comply with the ICAPCD's opacity limits. Apply water to all onsite roadways as needed to comply with the project's Dust Control Plan and comply with the ICAPCD's opacity limits. Reduce all construction related traffic speeds onsite to below 15 Miles per Hour (MPH). 	Imperial County Planning and Development Services.	During construction.	
MM 4.4.1b	 All construction sites in excess of 5 acres must implement the following standard mitigation measures: Fugitive PM₁₀ Control All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover. All on-site and off-site unpaved roads shall be effectively stabilized. Visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. All unpaved traffic areas one acre or more in size with 75 or more average vehicle trips per day shall be effectively stabilized and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned 	Imperial County Planning and Development Services.	During construction.	
	 and/or washed at delivery site after removal of bulk material. All track-out or carry-out shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved 			

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	road within an urban area.			
	 Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line. 			
	 The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering. 			
	Construction Combustion Equipment			
	 All construction equipment, including all off-road and portable diesel powered equipment, shall use alternative fuel or be catalyst equipped. 			
	 Idling time shall be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. 			
	 The hours of operation of heavy duty equipment and/or the amount of equipment in use shall be limited, to the extent feasible. 			
	 Fossil fueled equipment shall be replaced with electrically driven equivalents (provided they are not run via a portable generator set). 			
MM 4.4.2	As noted above, the project would be required to use equipment meeting T-BACT specifications. In addition, mitigation measures identified to reduced NO_x and PM_{10} (MM 4.4.1a, 4.4.1b and 4.4.1c) would also be classified as T-BACT measures for reducing DPM. Therefore, because the project will be using T-BACT technologies per ICAPCD protocols, all health risks would be considered reduced to less than significant.	Imperial County Air Pollution Control District	During construction.	
GEOLOGY A	ND SOILS			
MM 4.6.1	The proposed development shall be designed in accordance with seismic considerations contained in the 2010 California Building Code, 2010 Uniform Building Code or the standards of care established by the Structural Engineers Association of California and the County of Imperial building requirements.	Imperial County Department of Planning and Development Services.	Prior to approval of final building plans/As part of project design.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.6.4	The proposed solar generation facility and the private-land portion of the gen-tie shall be designed in accordance with a Geotechnical Evaluation that will be prepared by a licensed professional engineer. Prior to the final design of the project, the Geotechnical Evaluation shall be conducted to identify the presence and potential impact of expansive soils throughout the project site. The testing and analysis conducted as a part of the Geotechnical Evaluation shall be done under the guidance of a licensed professional engineer in general accordance with the applicable American Society for Testing and Materials (ASTM) standards and other locally-accepted testing methods. The Geotechnical Evaluation shall provide design recommendations for the expansive soil conditions identified at the project site that are in conformance with applicable industry standards. The Geotechnical Evaluation shall be submitted to Imperial County for review and approval prior to issuance of building permits, as required by Imperial County.	Imperial County Department of Planning and Development Services.	Prior to issuance of building permits.	
MM 4.6.6	The proposed solar generation facility and the private-land portion of the gen-tie shall be designed in accordance with a Corrosion Analysis that will be prepared by a licensed professional engineer. The Geotechnical Evaluation required in MM 4.6.4 above shall include Soil Resistivity Testing and Chemical Testing to identify the corrosion potential of the existing soil throughout the project site. Soil Resistivity Testing shall utilize the Wenner 4-point method. Chemical Testing shall be in accordance with ASTM or other locally-accepted testing and reporting standards. Following completion of the Geotechnical Evaluation, a Corrosion Analysis shall be prepared by a qualified engineer to model the effects of corrosion on project components. The Corrosion Analysis shall be based on standards developed by ASTM, the National Bureau of Standards (NBS), the International Organization for Standards (ISO), the National Association of Corrosion Engineers (NACE) International, and other applicable standards. The Corrosion Analysis shall provide design recommendations for the corrosive soil conditions identified at the project site that are in conformance with applicable industry standards. Design recommendations may include galvanization, epoxy coatings, thicker steel, and cathodic protection. The Corrosion Analysis shall be submitted to Imperial County for review and approval prior to issuance of the structural post building permit, as required by Imperial County. Results and recommendations of the Corrosion Analysis shall be implemented into the structural design of the project.	Imperial County Department of Planning and Development Services.	Prior to issuance of the structural post building permit.	
CULTURAL I				
MM 4.7.2	A qualified and experienced archaeological monitor, will monitor the installation of temporary orange construction fencing around the boundaries of archaeological site CA-IMP-11758. The onsite Construction Manager (who is defined as the individual with the authority to halt all construction-related activities) shall be required to stake in advance the line where the fence will be installed and will provide a minimum of 48 hours advance notice to the archaeological	Archaeological Monitor and Imperial County Department of Planning and	Prior to, during, and after construction of solar field.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	monitor before fence installation occurs. The Construction Manager shall be responsible for maintaining the fencing in working order throughout the duration of construction, which may include periodic maintenance or replacement. The Construction Manager shall not allow passage of non-authorized personnel to enter the site through the fence. The archaeological monitor will monitor the effectiveness of the protective measures described in this measure at least twice per month during construction to ensure that unanticipated effects are avoided. If an unanticipated effect is discovered, the monitor will immediately notify the Construction Manager and give interim directions for protecting the site from further effects, which may include mandatory cessation of activity within 100 feet or more of the discovery. The Construction Manager will be responsible for promptly implementing those interim measures. The archaeological monitor will monitor the removal of the temporary fencing after construction is completed. The Construction Manager shall be required to provide a minimum of 48 hours advance notice to the archaeological monitor before fence removal occurs.	Development Services.		
MM7.3	If subsurface deposits believed to be cultural in origin are discovered during construction, then all work must halt within a 200-foot radius of the discovery. A qualified professional archaeologist shall be retained to evaluate the significance of the find. A Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required. Work cannot continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR. If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility for the CRHR and, if eligible, data recovery as mitigation.	Qualified archaeologist and Imperial County Department of Planning and Development Services.	During construction.	
MM 4.7.4	In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the Health and Safety Code). If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission which will designate a Most Likely Descendant (MLD) for the Project (Section 5097.98 of the Public Resources Code). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public	Applicant, Imperial County Department of Planning and Development Services, Imperial County Coroner.	During construction.	

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).			
MM 4.7.5	Ground-disturbing activities in the Lake Cahuilla sediments, Quaternary alluvium, and the Brawley Formation must be monitored by a qualified paleontological monitor. Paleontological monitors will be equipped to salvage fossils as they are unearthed (to help avoid construction delays) and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens will be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Fossil specimens will be curated by accessioning them into an established, accredited museum repository with permanent retrievable paleontological storage. A report of findings with an appended itemized inventory of specimens will be prepared. The report and inventory, when submitted to the Imperial County Department of Planning and Development Services, along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts to paleontological resources.	Applicant and Imperial County Department of Planning and Development Services.	During construction of solar field and gen-tie line.	
AGRICULTU	JRAL RESOURCES	Г	Г	Т
MM 4.9.1a	 Prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed project, the mitigation of temporary impacts to agricultural lands shall be accomplished via one of the following options: Non-Prime Farmland Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits. Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the acres of non-prime farmland impacted by the project based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County. 	Imperial County Planning and Development Services Department.	Prior to the issuance of a grading permit (whichever is issued first).	

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	• Option 3: If the Permittee and County voluntarily enter into a Public Benefit Agreement that includes an Agricultural Benefit Fee payment that is equal to or greater than the amount that would be due under option 2 of this mitigation measure and the public benefit agreement requires that the Agricultural Benefit Fee be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County, then this mitigation measure may be satisfied by the payment of a voluntarily agreed amount to the Agricultural Benefit Fee.			
	 Option 1: Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30% of the fair market value per acre for the acres of prime farmland impacted by the project based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County." Option 3: If the Permittee and County voluntarily enter into a Public Benefit Agreement that includes an Agricultural Benefit Fee payment that is equal to or greater than the amount that would be due under option 2 of this mitigation measure and the public benefit agreement requires that the Agricultural Benefit Fee be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County, then this mitigation measure may be satisfied by the payment of a voluntarily agreed amount to the Agricultural Benefit Fee; or 			
	Option 4: The Permittee must revise their CUP Application/Site Plan to avoid Prime Farmland.	Inchesial Court	Duion to the	
MM 4.9.1b	In addition to Options 1, 2 or 3 identified in association with Prime Farmland and Non-Prime Farmland, the Applicant shall submit to Imperial County a Reclamation Plan to return the site to its current agricultural condition prior to the issuance of a certificate of occupancy for the Operations and Maintenance building. The Reclamation Plan shall include a site reclamation cost	Imperial County Planning and Development Services Department.	Prior to the issuance of a grading permit or building permit	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	estimate prepared by a California-licensed general contractor or civil engineer. The Permittee shall provide a financial assurance/bonding in the amount equal to the site reclamation cost estimate to return the land to its current agricultural condition after the solar facilities ceases operations and closes.		(whichever is issued first).	
HAZARDS A	ND HAZARDOUS MATERIALS	T	1	T
MM 4.10.2a	Empty herbicide bags and any trash or debris shall be removed from the property according to applicable regulations prior to commencing earthmoving activities.	Imperial Irrigation District; Imperial County Health Department, Environmental Health and Consumer Protection Services; CUPA County of Imperial.	Prior to issuance of a grading permit.	
MM 4.10.2b	ASTs containing sulfuric acid, ammonium nitrate solution, and anhydrous ammonia shall be removed from the following locations and wherever else present on the project site prior to commencing earth moving activities: east central side of APN 051-360-32; northwest and northeast side, southeast corner and northeast corner of APN 051-310-40; southern edge of APN 051-360-04; southwest corner of APN 051-310-50; northeast corner of APN 051-310-40; east-central side of APN 051-360-32; southeast corner of APN 051-360-03; and the southeast corner of APN 051-360-02. The removal and disposition of such ASTs shall be in accordance with applicable regulations.	Imperial County Agricultural Commissioner; Imperial County Health Department, Environmental Health and Consumer Protection Services; CUPA County of Imperial.	Prior to issuance of grading permit.	
MM 4.10.2c	If on-site the transformers are found to contain PCBs, the owner and responsible party for the transformers shall be required to handle and dispose of the waste dielectric fluid according to applicable regulations.	Imperial Irrigation District; Imperial County Health	Prior to issuance of grading permit.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
		Department, Environmental Health and Consumer Protection Services; CUPA County of Imperial. Imperial		
MM 4.10.2d	Utility poles, associated base and stained soil adjacent to ASTs shall be removed and disposed of in an approved manner by the owner/utility prior to commencing earthmoving activities. The locations include material located in the northeast corner of APN 051-360-02, stained soil on the southern edge of APN 051-360-04 and the east central side of APN 051-360-32.	Irrigation District; Imperial County Health Department, Environmental Health and Consumer Protection Services; CUPA County of Imperial.	Prior to issuance of grading permit.	
MM 4.10.2e	Suspect LBP shall be evaluated by a California Certified Lead Inspector/Assessor prior if structures are to be removed. As applicable, confirmed LBP shall be handled by a licensed LBP contractor and disposed of according to appropriate regulations.	Imperial County Health Department, Environmental Health and Consumer Protection Services; CUPA County of Imperial.	Prior to issuance of grading permit.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
BIOLOGICAL	RESOURCES			
MM 4.12.2	 Implement the following measures to address potential impacts to avian species, including SWFLs: The Applicant shall prepare and implement a Bird and Bat Conservation Strategy (BBCS) outlining conservation measures for construction and O&M activities that reduce potential impacts to migratory birds, bats and raptors. Conservation measures shall be developed based on, USFWS guidelines and input from the USFWS. Construction conservation measures to be addressed in the BBCS include: Minimizing disturbance to vegetation to the maximum extent practicable. Clearing vegetation outside of the breeding season. If construction occurs between February 1 and September 15, an approved biologist shall conduct a pre-construction clearance survey for nesting birds in suitable nesting habitat that occurs within the proposed area of impact. Pre-construction nesting surveys will identify any active migratory birds (and other sensitive non-migratory birds) nests. Direct impact to any active migratory bird nest should be avoided. Minimize wildfire potential. Minimize activities that attract prey and predators. Control of invasive plants. Apply APLIC design guidelines for overhead utilities by incorporating recommended or other methods that enhance the visibility of the lines to avian species. Operations and maintenance conservation measures to be incorporated into the BBCS include: Preparation of a Raven Control Plan that avoids introducing water and food resources in the area surrounding the solar generation facility. Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with Gen-tie Line facilities. Minimize use of outdoor lighting. Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program. The BBCS shall also address disturbance minimization, timing of constru	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	 The Applicant shall prepare a Raven Control Plan that details specific measures for storage and disposal of all litter and trash produced by the Campo Verde Solar project site and its employees. This plan shall be designed to discourage scavengers that may also prey on wildlife in the vicinity. All employees shall be familiar with this plan and littering shall be prohibited. This plan will be reviewed and approved by the BLM and CDFG. Prepare a Wildlife Mortality Reporting Program to identify and report any dead or injured animals observed by personnel conducting O&M activities within the solar generation facility and along the gen-tie line. An appropriate reporting format for dead or injured special status wildlife observed within the solar generation facility and along the gen-tie line shall be developed in coordination with CDFG, USFWS and the BLM. In addition, reporting of any dead or injured avian species found along the gen-tie line shall follow the existing USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov/). Species requiring reporting will be decided in consultation with CDFG, BLM and USFWS. Establish annual formal Worker Education Training for all employees and any subcontractors at the Campo Verde Solar project site to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury; and reporting procedures in the case of dead and/or injured wildlife species. The USFWS and the BLM shall be notified per approved guidelines and channels of authority if mortality should occur. Species requiring reporting will be decided in consultation with CDFG, BLM and USFWS and will be detailed in the Wildlife Mortality Reporting Program. 			
MM 4.12.3	 Implement MM 4.12.2 MM 4.12.3 The Applicant shall provide a habitat monitoring plan for the Wixom Marsh located at the terminus of Wixom Drain for Yuma Clapper Rail habitat. The monitoring plan section shall include dimensions and contours of Yuma Clapper Rail habitat features and describe the current plant species composition, density and percent cover. The plan to be approved by the U.S. Fish and Wildlife Service (USFWS) will meet performance criteria for plant species survival and species composition. The performance criteria will ensure that the current habitat composition, density, and area is maintained. The Applicant shall coordinate with USFWS on any adaptive management changes needing to be incorporated into the plan. The plan will ensure that plant species composition will be maintained at level equal to at least 50 percent of the existing plant species composition (those that are beneficial to YCR), at least 60 percent of the existing plant density, and 80 percent of the area that is currently suitable YCR habitat. 	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	 Project impacts shall not occur in potential southwestern willow flycatcher or Yuma Clapper Rail riparian habitat. To mitigate disturbance to Yuma Clapper Rail during construction activities, environmentally sensitive area (ESA) shall be established and flagged within 250-feet of potential Yuma clapper rail habitat during the breeding season (February 15 - June 30). No project-related construction, clearing or ground disturbing activities shall occur within 250-feet of potential Yuma Clapper Rail habitat during breeding season. Project electric transmission lines spanning or running adjacent to Yuma Clapper Rail habitat shall be equipped with flight diverters for overhead crossings. 		Prior to issuance of grading	•
MM 4.12.4	Implement MM 4.12.2	Project Applicant in collaboration with CDFG, BLM and USFWS.	permits, and maintained throughout the operations and maintenance process.	
MM 4.12.5	Implement MM 4.12.2	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	
MM 4.12.6a	The following measures will avoid, minimize, or mitigate potential impacts to Burrowing Owls during construction activities: 1) To the extent practicable, initial grading and clearing within the project footprint shall occur between September 1 and January 31 to avoid impacts to any breeding Burrowing	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	Owls. Occupied burrows shall not be removed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: (a) the birds have not begun egg-laying and incubation; or (b) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.			
	If initial grading and clearing within the project footprint is to begin during the breeding season (February 1 through August 31), measures 2 through 4 below will be implemented.			
	2) Within 14-days prior to initiation of initial grading and clearing, pre-construction clearance surveys for Burrowing Owl shall be conducted by qualified and agency-approved biologists to determine the presence or absence of this species within the grading area. The proposed grading areas shall be clearly demarcated in the field or via GPS by the project engineers and Designated Biologist prior to the commencement of the pre-construction clearance survey. The surveys shall follow the protocols provided in the Burrowing Owl Survey Protocol and Mitigation Guidelines.			
	3) When removal of occupied burrows is unavoidable, the following mitigation measures shall be implemented outside of the breeding season:			
	 Passive relocation methods are to be used by the biological monitors to move the owls out of the impact zone. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow, but will exclude any animals from re-entering the burrow. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before excavation of the burrow can begin. The burrows should then be excavated and filled in to prevent their reuse. 			
	 The removal of active burrows on-site requires construction of new burrows or the enhancement of existing unsuitable burrows (i.e., enlargement or clearing of debris) at a mitigation ratio of 2:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts. 			
	4) As the project construction schedule and details are finalized, an approved biologist shall prepare a Burrowing Owl Mitigation and Monitoring Plan that will detail the approved, site-specific methodology proposed to minimize and mitigate impacts to this species. Passive relocation, destruction of burrows, and construction of artificial burrows can only be completed upon prior approval by and in cooperation with the CDFG.			

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.12.6b	The Applicant shall consult with CDFG to determine the amount and conditions of compensatory mitigation for foraging habitat lost as a result of project implementation. A mitigation and monitoring plan shall be prepared that could include a combination of (or one of) on-site mitigation, off-site mitigation, or contributions to National Fish and Wildlife Foundation's Impact-Directed Environmental Accounts program. Exact mitigation acreages will be determined in consultation with CDFG and in accordance with CDFG's 2012 Staff Report for Burrowing Owl Mitigation.	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits.	
MM 4.12.8	 Implement MM 4.12.2. To prevent nesting raptors from noise associated with project construction, the following shall be implemented: To the extent practicable, initial grading and clearing within the project site shall take place outside the raptors' breeding season of February 1 to July 15. If construction occurs between February 1 and July 15, an approved biologist shall conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees or transmission towers) that occurs within 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until an approved biologist determines that the fledglings are independent of the nest. 	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	
MM 4.12.9	Implement MM 4.12.2	Project Applicant in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	
MM 4.12.10a	In accordance with the FTHL Rangewide Management Strategy, the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. The following will be implemented when conducting construction activities within the creosote bush-white burr sage scrub and	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits.	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	 other native vegetation types in the gen-tie ROW: Prior to ground-disturbing activities, an individual shall be designated and approved by the BLM as the Designated Biologist 1 (i.e. field contact representative) along with approved Biological Monitors as needed for construction, particularly within the Yuha MA. The Designated Biologist will be designated for the period during which on-going construction and post-construction monitoring and reporting by an approved biologist is required, such as annual reporting on habitat restoration. Each successive Designated Biologist will be approved by the BLM's Authorized Officer (i.e., BLM field manager, El Centro). The Designated Biologist will have the authority to ensure compliance with the conservation measures for the FTHL and will be the primary agency contact for the implementation of these measures. The Designated Biologist will organize and oversee the work of the biological monitors and have the authority and responsibility to halt activities that are in violation of the conservation measures. An organizational chart shall be provided to BLM prior to ground-disturbing activities with a clear chain of command and contact information (cell phones). A detailed list of responsibilities for the Designated Biologist is summarized below. To avoid and minimize impacts to biological resources, the Designated Biologist will: Notify BLM's Authorizing Officer at least 14 calendar days before initiating ground disturbing activities. Immediately notify BLM's Authorized Officer in writing if the project Applicant is not in compliance with any conservation measures, including but not limited to any actual or anticipated failure to implement conservation measures within the time periods specified. Conduct compliance inspections at a minimum of once per month during on- 			Initials)
	going construction after clearing, grubbing, and grading are completed, and submit a monthly compliance report to BLM's Authorized Officer until construction is complete.			

1 A qualified designated biologist must have (1) a bachelor's degree with an emphasis in ecology, natural resource management, or related science; (2) three years of experience in field biology or current certification of a nationally recognized biological society, such as the ecological society of america or the wildlife society (3) previous experience with applying terms and conditions of a biological opinion; and, (4) the appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	2. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with stakes and flagging prior to construction activities. Where feasible, the areas shall be cleared of FTHL and fenced (according to the Strategy) to exclude FTHL from re-entering these construction areas, particularly in the MA and other high-use areas such as for staging of equipment or parking areas. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor, such as the agricultural fields rather than native desert. To the extent possible, disturbance of shrubs and surface soils due to stockpiling will be minimized. All disturbances, vehicles, and equipment will be confined to the flagged and cleared areas. To the extent possible, surface disturbance will be timed to minimize mortality to FTHL.			
	3. Approved Biological monitor(s) will assist the Designated Biologist in conducting preconstruction surveys and in monitoring of mobilization, ground disturbance, grading, construction, operation, closure, and restoration activities. The biological monitor(s) will have experience conducting FTHL field monitoring, have sufficient education and field experience to understand FTHL biology, be able to identify FTHL scat, and be able to identify and follow FTHL tracks. The Designated Biologist will submit the resume, at least three references, and contact information of the proposed biological monitors to the BLM for approval. To avoid and minimize impacts to biological resources, the Biological Monitors will assist the Designated Biologist with the following activities on BLM managed lands:			
	 Be present during construction (e.g., grubbing, grading,) activities that take place in FTHL habitat to avoid or minimize take of FTHL. Activities include, but are not limited to, ensuring compliance with all impact avoidance and minimization measures, monitoring for FTHLs and removing lizards from harm's way, and checking avoidance areas (e.g., washes) to ensure that signs, and stakes are intact and that human activities are restricted in these avoidance zones. 			
	 At the end of each work day, inspect all potential wildlife pitfalls (trenches, bores and other excavations) for wildlife and then backfill. If backfilling is not feasible, all trenches, bores, and other excavations will be contoured at a 3:1 slope at the ends to provide wildlife escape ramps, or completely and securely covered to prevent wildlife access. 			

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	 During construction, examine areas of active surface disturbance periodically, at least hourly, when surface temperatures exceed 29°Celsius (C; 85°F) for the presence of FTHL. 			
	4. Prior to project initiation of construction of the gen-tie on BLM managed lands, a Worker Environmental Awareness Program (WEAP) will be developed and implemented, and will be available in both English and Spanish. Wallet-sized cards summarizing this information will be provided to all construction, operation, and maintenance personnel. The education program will include the following aspects:			
	biology and status of the FTHL,			
	 protection measures designed to reduce potential impact to the species, 			
	function of flagging designating authorized work areas, and the field and the			
	reporting procedures to be used if a FTHL is encountered in the field, and division approach to be used if a FTHL is encountered in the field, and division approach to be used if a FTHL is encountered in the field, and division approach to be used if a FTHL is encountered in the field, and division approach to be used if a FTHL is encountered in the field, and			
	 driving procedures and techniques, for commuting to, and driving on, the Project site, to reduce mortality of FTHL on roads. 			
	5. FTHLs will be removed from harm's way during all construction activities, per item #6 below. To the extent feasible, methods to find FTHLs will be designed to achieve a maximal capture rate and will include, but not be limited to using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 ha (30 minutes per 1 ac). Persons that handle FTHLs will first obtain all necessary permits and authorization from the CDFG. If the species is federally listed, only persons authorized by both CDFG and USFWS will handle FTHLs. FTHL removal surveys will also include:			
	 A Horned Lizard Observation Data Sheet and a Project Reporting Form, per Appendix 8 of the RMS, will be completed. During construction, quarterly reports describing FTHL removal activity, per the reporting requirements, will be submitted to the BLM. 			
	6. The removal of FTHLs out of harm's way will include relocation to nearby suitable habitat in low-impact (e.g., away from roads and solar panels) areas of the Yuha MA. Relocated FTHLs will be placed in the shade of a large shrub in undisturbed habitat. If surface temperatures in the sun are less than 24° Celsius (C) 75° Fahrenheit (F) or exceed 38°C (100° F), the Designated Biologist or biological monitor, if authorized, will hold the FTHL for later release. Initially, captured FTHLs will be held in a cloth bag,			

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	cooler, or other appropriate clean, dry container from which the lizard cannot escape. Lizards will be held at temperatures between 75° F and 90° F and will not be exposed to direct sunlight. Release will occur as soon as possible after capture and during daylight hours. The Designated Biologist or biological monitor will be allowed some judgment and discretion when relocating lizards to maximize survival of FTHLs found in the project area.			
	7. To the maximum extent practicable, grading in FTHL habitat will be conducted during the active season, which is defined as March 1 through September 30, or if ground temperatures are between 24°C (75° F) and 38 °C (100° F). If grading cannot be conducted during this time, any FTHLs found will be removed to low-impact areas (see above) where suitable burrowing habitat exists, (e.g., sandy substrates and shrub cover).			
	8. Temporarily disturbed areas associated with gen-tie construction and staging areas on federal lands, will be re-vegetated according to the Site Reclamation and Revegetation Plan (SRRP) approved by the BLM. The SRRP must be approved in writing by the BLM prior to any vegetation-disturbing activities. Restoration involves re-contouring the land, replacing the topsoil (if it was collected), and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.), and monitoring the restored area for a period of 5 years (or less if the restoration meets all success criteria). Components of the SRRP will typically include:			
	 The incorporation of Desert Bioregion Revegetation/Restoration Guidance measures. These measures generally include alleviating soil compaction, returning the surface to its original contour, pitting or imprinting the surface to allow small areas where seeds and rain water can be captured, planting seedlings that have acquired the necessary root mass to survive without watering, planting seedlings in the spring with herbivory cages, broadcasting locally collected seed immediately prior to the rainy season, and covering the seeds with mulch. 			
MM 4.12.10b	In accordance with the FTHL Rangewide Management Strategy, the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects operations and maintenance of the proposed project may have on FTHL. In order to reduce the potential impact to FTHL during O&M, the following will be implemented when conducting O&M along the gen-tie:	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits for the gen-tie.	

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	 At least 15 days prior to the commencement of construction and within 15 days following completion of construction activities, the Designated Biologist will provide the BLM a Project FTHL Status Report, which will include, at a minimum: 			
	 A general description of the status of the project site within the MA. A copy of the table in the project biological monitoring report with notes showing the current implementation status of each conservation measure. An assessment of the effectiveness of each completed or partially completed measure in avoiding and minimizing project impacts. 			
	 A completed a Project Reporting Form from the Flat-tailed Horned Lizard Rangewide Management Strategy. 			
	 A summary of information regarding any FTHL mortality in conjunction with the Project's Wildlife Mortality Reporting Program. 			
	 Recommendations on how conservation measures might be changed to more effectively avoid, minimize, and offset future project impacts on the FTHL. The Designated Biologist or biological monitor(s) will evaluate and implement the best measures to reduce FTHL mortality along access and maintenance roads, particularly during the FTHL active season (March 1 through September 30). These measures will include: 			
	 A speed limit of 15 miles per hour when driving access roads within suitable FTHL habitat. The Designated Biologist may reduce this speed limit to 10 mph in areas identified as active wildlife corridors as needed to reduced mortality. All vehicles required for O&M within suitable FTHL habitat must remain on the designated access/maintenance roads. Cross country vehicle and equipment use outside of designated work areas in suitable FTHL habitat shall be prohibited. 			
	 O&M activities occurring within suitable FTHL habitat including weed abatement or any other O&M activity that may result in ground disturbance will be conducted outside of the FTHL active season whenever feasible. If any O&M activities must be conducted during the FTHL active season that may result in ground disturbance within suitable FTHL habitat, such as weed abatement or vehicles requiring access outside of a designated access road, a biological monitor will be present during activities to reduce FTHL impacts. 			

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.12.10c	In accordance with the Flat-tailed Horned Lizard Rangewide Management Strategy, compensatory mitigation would be required for impacts to FTHL habitat. FTHL are known to occur in the native vegetation along the proposed gen-tie ROW. In accordance with the Rangewide Management Strategy, compensation for permanent impact to this habitat within the MA will be at a 6:1 ratio. Acreages of proposed disturbance to FTHL habitat can be found in Table 4.12-8. TABLE 4.12-8 POTENTIAL IMPACTS TO FTHL HABITAT FOR PROPOSED GEN-TIE Gen-Tie Permanent Impacts 0.05 Temporary Impacts 7.16 Source: Heritage, 2012.	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits.	
MM 4.12.11	Implement MM 4.12.10a , MM 4.12.10b , and MM 4.12.10c . Mitigation for FTHL would be considered sufficient mitigation for Colorado Desert fringe-toed lizard habitat because these species occupy similar habitats.	Project Applicant in coordination with the BLM.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	
MM 4.12.12	Implementation of the Applicant proposed pre-construction burrow surveys for Burrowing Owl and FTHL would also identify any potentially active kit fox burrows; any active kit fox burrows identified would be avoided by construction activities.	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits.	
MM 4.12.13a	To minimize the introduction and spread of weed species, a Weed Management Plan shall be developed and implemented. The weed management plan shall include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken during construction and O&M activities to prevent the	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits, and	

MM #	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	introduction and spread of new weed species as a result of the project. A Weed Management Plan for the solar generation facility will be prepared and implemented that describes specific on-going measures to remove invasive plant species from the solar generation facility. This plan will be approved by the County. A companion Weed Management Plan will be prepared for the gen-tie that will be approved by BLM.		maintained throughout the operations and maintenance process.	
MM 4.12.13b	 The following measures shall be implemented to prevent the spread of weeds: Limit disturbance areas during construction to the minimal required to perform work and limit ingress and egress to defined routes Implement vehicle wash and inspection procedures and closely monitor the types of materials brought onto the site to minimize the potential for weed introduction Use of certified weed free mulch, straw wattles, hay bales and seed mixes Reestablish native vegetation along the gen-tie as quickly as practicable on disturbed sites to avoid weed invasions Monitor and rapidly implement control measures to ensure early detection and eradication for weed invasions Weed control methods that may be used include both physical and chemical control. Physical control methods include manual hand pulling of weeds, or the use of hand and power tools to uproot, girdle, or cut plants. Herbicide applications are a widely used, effective control method for removing infestations of invasive weed species. However, inadvertent application of herbicide to adjacent native plants must be avoided, which can often be challenging when weeds are interspersed with native cover. Before applying herbicide, contractors will be required to obtain any required permits from state and local authorities. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and Imperial County will be used to control invasive species at the energy facility site. Invasive plants species on BLM lands would be prevented, controlled, and treated through an Integrated Pest Management approach per the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Prog	Project Applicant in collaboration with the BLM.	Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.	

5.0 MITIGATION MONITORING AND REPORTING PROGRAM

MM#	Mitigation Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
MM 4.12.14	The Applicant shall coordinate with the CDFG to obtain a Section 1600 Streambed Alteration Agreement as necessary to address any impacted CDFG-jurisdictional water, and provide the appropriate (CDFG approved) compensatory mitigation for permanent and temporary impacts to CDFG jurisdictional riparian habitat. Mitigation for permanent impacts to CDFG riparian habitat is typically at a 2:1 ratio, while mitigation for temporary impacts to CDFG riparian habitat is typically at a 1:1 ratio.	Project Applicant and in collaboration with CDFG, BLM and USFWS.	Prior to issuance of grading permits.	