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CHAPTER 5 – DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

5.0 INTRODUCTION

In accordance with the Proponent's Environmental Assessment (PEA) Checklist issued by the California Public Utilities Commission (CPUC) on November 24, 2008, this section:

1. Identifies the potentially significant impacts that will result from the construction, operation, or maintenance of the San Diego Gas & Electric Company (SDG&E) East County (ECO) Substation Project (Proposed Project) and the applicant-proposed measures (APMs) that the applicant is proposing to avoid, minimize, or mitigate for those potentially significant effects

2. Discusses the alternatives that were evaluated in determining the Proposed Project and the justification for the selection of the preferred alternative

3. Discusses the Proposed Project's potential to induce growth in the area

5.1 APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS

SDG&E has identified 68 APMs that it plans to implement during construction and/or operation of the Proposed Project to avoid, minimize, and/or reduce impacts to the less-than-significant level. Table 5-1: APM Justification provides the APMs that have been proposed as part of the Project, as well as the reason why each was proposed.

5.2 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS

5.2.0 Introduction

Section 15126.6, subdivision (a) and (f)(2)(A) of the California Environmental Quality Act (CEQA) Guidelines and Assigned Commissioner's Ruling on Application 01-07-004 (dated October 16, 2002) do not require review of alternatives when a project will not result in significant environmental impacts after mitigation, as is the case with the Proposed Project. However, the CPUC has adopted an "Information and Criteria List" in order to determine whether applications for projects are complete. The list specifies the information required from any applicant for a project subject to the CEQA. As the lead agency, the CPUC requires applicants for a Permit to Construct or a Certificate of Public Convenience and Necessity to describe a reasonable range of alternatives within the PEA.

Table 5-1: APM Justification

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-AES-01	In order to reduce potential visual contrast and integrate the ECO Substation's appearance with the desert landscape setting, when Project construction has been completed, all disturbed terrain at the ECO Substation site will be restored through recontouring and revegetation in accordance with the Landscaping Plan included as Figure 4.1–3: East County Substation Landscape Concept Plan.	This measure will ensure that permanent visual impacts do not occur where only temporary construction related impacts take place by returning disturbed areas to preconstruction conditions.
APM-AES-02	When Project construction has been completed, all disturbed terrain at the Boulevard Substation site will be restored through recontouring, revegetation, and landscaping in accordance with the Landscaping Plan included as Figure 4.1–4: Boulevard Substation Landscape Concept Plan. In order to provide screening and thus reduce potential Project visibility, the Landscape Plan includes larger shrubs and trees that will partially screen views of the substation from Old Highway 80 and from adjacent residential properties.	This measure will ensure that permanent visual impacts do not occur where only temporary construction related impacts take place by returning disturbed areas to preconstruction conditions. In addition, this measure will potentially reduce the visual impact of the rebuilt substation to residences in the area.
APM-AES-03	In order to reduce the Project's potential visibility from Old Highway 80, the underground portion of the new 138 kV transmission line will be extended an additional distance of approximately 600 feet to the south and the steel cable riser pole will be relocated to replace structure SP-2.	This measure will reduce the visual impact of the steel cable riser pole by moving it outside of the immediate viewshed of Old Highway 80.
APM-AES-04	Construction activities will be kept as clean and inconspicuous as possible. Where practical, construction storage and staging will be screened with opaque fencing from close-range residential views.	This measure will reduce potential temporary construction impacts associated with equipment and material storage near residential areas by implementing a relatively cost-effective measure.
APM-AIR-01	Rock aprons or rattle plates will be installed, as needed, at the intersection of dirt access roads and paved public roadways to clean the tires of equipment prior to leaving the site.	This measure is intended to minimize soil tracked onto paved surfaces, and when implemented with APM-AIR-03, will reduce impacts associated with fugitive dust.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-AIR-02	All active construction areas, unpaved access roads, parking areas, and staging areas will be watered or stabilized with non-toxic soil stabilizers as needed to control fugitive dust.	This measure will ensure that dust abatement is implemented on a regular basis and as needed throughout construction. The frequency of watering will be dependent on site-specific conditions, such as soil type, wind, and construction activity. APM-AIR-02, in conjunction with the other APMs for air quality, will ensure that local air standards and plan thresholds are not exceeded.
APM-AIR-03	All public streets will be swept or cleaned with mechanical sweepers if visible soil material is carried onto them by construction activities or vehicles.	Similar to APM-AIR-01, APM-AIR-03 is intended to reduce fugitive dust emissions during Project construction. The measure is performance-based and requires cleaning of paved surfaces on a regular basis. This measure will also reduce erosion and sedimentation by reducing tracking.
APM-AIR-04	Exposed stockpiles (e.g., dirt, sand, etc.) will be covered and/or watered or stabilized with non-toxic soil binders as needed to control emissions.	This measure is intended to reduce fugitive dust, but is specific to spoil stockpiles.
APM-AIR-05	Trucks transporting bulk materials will be completely covered unless two feet of freeboard space from the top of the container is maintained with no spillage and loss of material. In addition, the cargo compartment of all haul trucks will be cleaned and/or washed at the delivery site after removal of the bulk material.	This measure is intended to reduce fugitive dust, but is specific to the transport of materials that could blow out of the beds of haul trucks.
APM-AIR-06	Movement of bulk material handling or transfer will be stabilized prior to handling or at a point of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.	This measure is intended to reduce fugitive dust, but is specific to the transport of materials that could blow out of the beds of haul trucks.
APM-AIR-07	Traffic speeds on unpaved roads and the right-of-way (ROW) will be limited to 15 miles per hour (mph).	This measure is intended to reduce fugitive dust by limiting vehicle speeds in order to reduce dust emissions due to travel on dirt roads.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-AIR-08	SDG&E will limit actively graded areas to a cumulative total of 12.8 acres per day. The total area of disturbance can exceed this acreage so long as the actively graded portion is below this threshold.	This measure will control the amount of earth disturbance that occurs simultaneously during most of the Project in order to keep fugitive dust emissions below established thresholds.
APM-AIR-09	Vehicle idling time will be limited to a maximum of five minutes for vehicles and construction equipment, except where idling is required for the equipment to perform its task.	This measure is intended to eliminate unnecessary idling, while recognizing that some equipment cannot be turned on and off frequently. Reducing idling time will contribute to reduced emissions.
APM-AIR-10	Road graders used during site development activities at the ECO Substation will be equipped with a California Air Resources Board-verified Level 2 diesel emission control strategy or a comparable diesel-control technology that will reduce inhalable particulate matter (PM_{10}) emissions by 50 percent or more.	This measure will reduce the amount of PM_{10} emitted by road graders during earth-moving activities at the ECO Substation by 50 percent or more, helping to keep emissions below established thresholds.
APM-AIR-11	If suitable park-and-ride facilities are available in the Project vicinity, construction workers will be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the Project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the Project's construction schedule.	This measure is intended to reduce emission from commute vehicles by reducing the total number of commute vehicles traveling to and from the construction site.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-AIR-12	Routine inspections and preventative maintenance will be performed on all sulfur hexafluoride (SF_6) equipment according to the manufacturer's recommendations. SF_6 density will be monitored at all equipment and any changes exceeding the manufacturer's recommendations will be reported immediately to SDG&E. These activities will be tracked in SDG&E's substation maintenance software and reported to the California Climate Action Registry and the Assembly Bill 32 mandatory reporting regulation in compliance with the Environmental Protection Agency's mass-balance equation reporting and tracking method. Substation crews will be trained on these tracking procedures and the significance of SF_6 as a greenhouse gas.	This measure will ensure that unnecessary SF_6 emissions from substation equipment, which can contribute to greenhouse gas effects, are minimized by proper maintenance to prevent leaks. This measure will also ensure that any leaks of SF_6 are readily identified and corrected to minimize these emissions.
APM-AIR-13	During final design, SDG&E will consider the feasibility of using rooftop photovoltaic panels on the control shelters to help support operating load at the ECO Substation. SDG&E will also investigate utilizing solar tubes for lighting in the control shelters. SDG&E's Project team will work closely with SDG&E's Sustainable Communities team to implement green building practices at the ECO Substation.	If implemented, this measure will offset some electricity required to operate the facility resulting in a reduction in air pollutant emissions.
APM-BIO-01	Littering will not be allowed. Food-related garbage and trash will be removed from the Project area daily.	This measure is intended to prevent attracting wildlife to the Project area, particularly coyotes, ravens, and other predatory animals that may then prey upon sensitive species.
APM-BIO-02	Smoking will only be allowed in cleared areas or in enclosed vehicles to reduce the potential for wildfires.	This measure is intended to prevent the accidental start of wildfires.
APM-BIO-03	All earth-moving equipment will be confirmed to be clean and free of mud and vegetative material before first arriving at the construction site. If the equipment leaves the Project site, it must be confirmed to be clean and free of mud and vegetative material prior to re-entering the site.	This measure is intended to prevent the accidental spread of noxious weeds in the Project area. Thorough cleaning of vehicles is one of the most cost-effective and efficient means of controlling the spread of noxious weeds.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-BIO-04	Firearms will be prohibited in all Project areas.	This measure is intended to prevent hunting during Project activities and to prevent accidental injury to native wildlife and protected sensitive species.
APM-BIO-05	Project personnel will not be allowed to bring pets to any Project area to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.	This measure is intended to prevent harassment or killing of native and sensitive wildlife.
APM-BIO-06	No harm, harassment, or collection of plant and wildlife species will be allowed. Feeding of wildlife will be prohibited.	This measure is intended to prevent illegal collection of native and sensitive plants and animals, and to prevent causing intentional or accidental harm to native species. Similar to APM-BIO-01, feeding of wildlife is prohibited to prevent attracting wildlife to the site and disrupting natural behavior.
APM-BIO-07	A biological monitor will be present during all ground-disturbing and vegetation removal activities. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.	The highest potential of encountering sensitive species occurs during initial clearing and vegetation removal. This measure is intended to place a qualified biologist on site during this activity to conduct a final focused survey to prevent accidental harm or take of sensitive species.
APM-BIO-08	Prior to construction, all SDG&E, contractor, and subcontractor Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including appropriate wildlife avoidance; impact minimization procedures; the importance of these resources, and the purpose and necessity of protecting them; and methods for protecting sensitive ecological resources. The training will include Best Management Practices to reduce the potential for erosion and sedimentation during construction of the Project.	This measure is intended to provide appropriate levels of communication regarding all Project measures, applicable environmental laws, regulations, and basic environmental awareness to the personnel who are responsible for minimizing Project impacts.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-BIO-09	Survey personnel will keep survey vehicles on existing roads. During Project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat will require prior approval from the Project biological monitor. Hiking off roads or paths for survey data collection will be allowed year-round as long as all of the other applicable APMs are met.	This measure is intended to ensure that initial construction survey activities comply with Project APMs and that biological monitors are evaluating (and monitoring as necessary) vegetation clearing activities related to surveying to ensure that impacts to sensitive species are avoided.
APM-BIO-10	Except when not feasible due to physical or safety constraints, all Project vehicle movement will be restricted to existing access roads and access roads constructed as a part of the Project and determined and marked by SDG&E in advance of construction. Approval from a biological monitor will be obtained prior to any travel off of existing access roads.	This measure is intended to prevent uncontrolled cross-country travel and the associated impacts to sensitive habitats, while allowing for exceptions and changes due to safety constraints.
APM-BIO-11	To the extent feasible, access roads will be built at right angles to streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E will limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads will be constructed in a manner that minimizes potential adverse impacts on waters of the U.S. or state-only waters. All access roads constructed parallel to or across these features will be approved by a biological monitor in advance.	This measure will minimize impacts to desert washes and streams and will minimize potential erosion problems on or near waters of the U.S. and state.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM- BIO-12	Prior to construction of the 138 kV transmission line, surveys for sensitive plant species known to occur or with a moderate to high potential to occur within the Project area, as described in Chapter 4.4 Biological Resources, will be conducted for work areas and access roads during the appropriate phenological period. A report will be prepared that reflects the finding of these surveys and any associated impacts that would result from construction of the transmission line. This report will be submitted to the CPUC prior to the start of construction.	This measure will ensure that special-status plant species in the Project area are identified and documented, which will facilitate their protection as outlined in APM-BIO-13 and APM-BIO-14.
APM-BIO-13	Prior to the start of construction, the boundaries of plant populations designated as sensitive by the United States Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG), and other resources designated sensitive by SDG&E and the resource agencies, will be delineated with clearly visible flagging or fencing. The flagging and/or fencing will be maintained in place for the duration of construction. Flagged and fenced areas will be avoided to the extent practicable during construction activities in that area.	This measure will ensure that sensitive resources are protected.
APM-BIO-14	If impacts to sensitive plant species are unavoidable, SDG&E will work with the appropriate jurisdictional agency (when practicable) to salvage the plant individuals utilizing methods, including removal and stockpiling for replanting on site, removal and transplanting out of surface disturbance area, or removal and salvage by an appropriate resource specialist.	This measure will ensure that the USFWS and/or the CDFG are included in determining appropriate methods for salvaging special-status plant species and that any impacted species will be preserved to the extent practicable.
APM-BIO-15	SDG&E will conduct protocol-level surveys for QCB (*Euphydryas editha quino*) prior to construction. Once the surveys have been completed, a 45-day report will be submitted to the USFWS and CPUC.	This measure will ensure that appropriate surveys are conducted in the Project area for QCB so that any impacts can be mitigated.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-BIO-16	SDG&E will work with Project engineers to relocate, if feasible, proposed SP 75 to avoid dense populations of any primary host plant of the QCB.	This measure will minimize impacts to QCB habitat, thereby minimizing impacts to the species.
APM-BIO-17	SDG&E will compensate for permanent impacts to suitable QCB critical habitat at a ratio of one to one or as agreed to in consultation with the USFWS.	This measure will ensure that there is no net loss of suitable QCB critical habitat, thereby minimizing impacts to the species.
APM-BIO-18	SDG&E will compensate for permanent impacts to sensitive species habitat at a ratio of one to one or as agreed to in consultation with the USFWS and CDFG.	This measure will ensure that there is no net loss of habitat for USFWS- and CDFG-listed species.
APM-BIO-19	All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. Open construction holes will be covered overnight. Covers will be secured in place nightly, prior to workers leaving the site, and will be strong enough to prevent livestock or wildlife from falling into the hole. Holes and/or trenches will be inspected prior to filling to ensure the absence of mammals and reptiles. Excavations will be sloped on one end to provide an escape route for small mammals and reptiles. If wildlife is located in the trench or excavation and cannot escape unimpeded, the biological monitor will be called immediately to remove them. The biological monitor will make the required contacts with USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped protected wildlife species. If the biological monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) will be employed to remove the wildlife and transport them safely to other suitable habitats.	This measure is intended to minimize wildlife entrapment in open excavations or trenches. This measure is also intended to ensure that in the event that wildlife or livestock do inadvertently enter into an excavation, there are passive measures (escape ramps) that allow for their escape. Further, should an animal fail to escape on its own, this measure provides that qualified individuals will ensure that the animal is removed unharmed.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-BIO-20	Permanent retention basins will be constructed with escape ramps along two sides of the pond to allow entrapped wildlife to escape. The slope of the ramps will not exceed a two to one ratio and will be constructed of non-slippery material, or as specified by the biological monitor.	This measure will minimize the potential for sensitive species and other wildlife to drown in the retention basins due to an inability to escape.
APM-BIO-21	If feasible, SDG&E will avoid construction during the nesting or breeding season. When it is not feasible to avoid construction during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds or other species in the work area. If an active nest is identified, a biological monitor will monitor the nest and determine a suitable construction buffer to ensure that the birds are not disturbed. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFG as necessary to determine the construction buffer. Monitoring of the nest will continue until the birds have fledged.	This measure is intended to protect nesting birds, and to ensure compliance with federal and state endangered species and migratory bird protection laws.
APM-BIO-22	Prior to construction, SDG&E will remove all existing raptor nests from existing structures that will be affected by Project construction. Removal of nests will occur outside of the raptor breeding season (January to July). If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist will survey the nest prior to removal to determine if it is active. If the nest is inactive, it will be dismantled and removed from the site promptly under the supervision of a biological monitor. If the nest is determined to be active, it will not be removed and the biological monitor will monitor the nest to ensure nesting activities and/or breeding activities are not disrupted. If the biological monitor determines that Project activities are disturbing or disrupting nesting activities,	This measure is intended to prevent raptors from establishing nests near the Project and to avoid impacts to raptors that nest near the Project area.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
	the monitor will make recommendations to reduce the noise and/or disturbance in the vicinity of the nest.	
APM-BIO-23	Construction night lighting in sensitive habitats will be minimized to the extent feasible. Exterior lighting within the Project area and adjacent to undisturbed habitat will be the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.	This measure is intended to minimize the effects of nighttime construction lighting on nocturnal wildlife species, while providing reasonable allowances to illuminate work areas for human safety.
APM-BIO-24	Nighttime vehicle traffic volume associated with Project activities will be kept to a minimum and speeds will be limited to 10 mph to prevent mortality of nocturnal wildlife species.	This measure is intended to minimize the effects of nighttime vehicle traffic on nocturnal wildlife species and to prevent accidental take of special-status species.
APM-BIO-25	Structures will be constructed to conform to the Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on Power Lines* to help minimize impacts to raptors.	This measure is intended to help prevent accidental injury or mortality of avian species, particularly large raptors, which could occur from collision or electrocution.
APM-BIO-26	At the completion of the Project, all construction materials will be removed from the site.	This measure is intended to prevent unnecessary degradation of natural areas, to remove any potentially dangerous or harmful materials, and to prevent attracting subsequent illegal dumping in the Project area.
APM-BIO-27	All new access roads constructed as part of the Project that are not required as permanent access for future Project operation and maintenance will either be restored or permanently closed. Where required, roads will be permanently closed using the most effective feasible and least environmentally-damaging methods appropriate to that area (e.g., stockpiling and replacing topsoil or replacing rock), with the concurrence of the underlying landowner and the governmental agency having jurisdiction.	This measure is intended to prevent providing or attracting post-construction vehicle traffic and related human-caused impacts to formerly remote natural areas.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-BIO-28	Topsoil located in areas to be restored will be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation. Topsoil located in developed or disturbed areas is excluded from this APM.	This measure will facilitate restoration of disturbed areas, while not burdening construction with the requirement to restore previously disturbed areas.
APM-BIO-29	Wherever possible, vegetation will be left in place to avoid excessive root damage and to allow for resprouting.	This measure, where implemented, will facilitate revegetation and will help stabilize soils against erosion.
APM-BIO-30	Temporarily disturbed areas will be reseeded with an appropriate seed mix that does not contain invasive, non-native plant species in accordance with landowner approval.	This measure will facilitate appropriate restoration of disturbed areas and will help prevent the introduction of invasive weeds.
APM-CUL-01	Prior to construction, all SDG&E, contractor, and subcontractor Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources and paleontological resources and to recognize possible buried resources. This training will include presentation of the procedures to be followed upon discovery or suspected discovery of archaeological materials, including Native American remains, and their treatment, as well as of paleontological resources.	This measure will reduce the potential to destroy unidentified unique paleontological or cultural resources by training workers to identify sensitive resources, stop work, and notify supervisors so that if a resource is uncovered during construction, it can be recovered and protected.
APM-CUL-02	At least 120 days prior to construction, a cultural/historical resource consultant will be retained by SDG&E to complete an analysis and assessment of the potential to disturb resources that were identified during the initial studies from major ground-disturbing activities. The analysis and assessment will be prepared to meet the requirements of the CEQA and the National Environmental Policy Act. Project component sites that require testing for significance determination will be treated on a case-by-case basis using all applicable criteria.	This measure will ensure that known and previously unidentified cultural resources are assessed prior to Project disturbance so that they can be protected, avoided, and/or extracted.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-CUL-03	A qualified archaeologist will attend preconstruction meetings, as needed, to make comments and/or suggestions concerning the monitoring program and to discuss excavation plans with the excavation contractor. The requirements for archaeological monitoring will be noted on the construction plans. The archaeologist's duties will include monitoring, evaluation, analysis of collected materials, and preparation of a monitoring results report conforming to agency guidelines for the Determination of the Significance of Archaeological Sites.	This measure will ensure that an archaeologist is integrated into the Project construction team to monitor and evaluate potential discoveries so they can be avoided, protected, or extracted.
APM-CUL-04	Known cultural resources that can be avoided will be demarcated as Environmentally Sensitive Areas. Construction crews will be instructed to avoid disturbance of these areas.	This measure is intended to ensure cultural resources are protected by marking and avoiding known resources during Project construction.
APM-CUL-05	In the event that cultural resources are discovered, the archaeologist will have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeologist, in consultation with SDG&E's Cultural Resource Specialist will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts.	This measure is intended to ensure that any unanticipated discoveries of potentially significant cultural resources are protected through evaluation and recovery, as appropriate.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-CUL-06	All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified as to species.	This measure will ensure that any potentially significant cultural resources discovered during Project construction are recovered and curated.
APM-CUL-07	A monitoring results report (with appropriate graphics), which describes the results, analyses, and conclusions of the monitoring program, will be prepared and submitted to SDG&E's Cultural Resource Specialist and Environmental Project Manager following termination of the program. Any noteworthy cultural sites or features encountered will be recorded with the South Coastal Information Center at San Diego State University and with the San Diego Museum of Man.	This measure will provide documentation of the results of APM-CUL-02 through APM-CUL-06. It will also ensure that any finds are documented so that they can be taken into consideration during the implementation of future projects.
APM-CUL-08	Prior to construction, a paleontological resource consultant will be retained by SDG&E to complete an analysis and assessment of the potential to disturb resources from major ground-disturbing activities, such as facility pad grading, trenching, or new access road grading.	This measure will ensure that a paleontologist is integrated into the Project construction team to monitor and evaluate potential discoveries so they can be avoided, protected, or extracted.
APM-CUL-09	A qualified paleontologist will attend preconstruction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with a Master of Science or Doctor of Philosophy in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of Southern California, and who has worked as a paleontological mitigation project supervisor in the region for at least one year. The requirements for paleontological monitoring will be noted on the construction plans.	This measure will ensure that a paleontologist is integrated into the Project construction team to monitor and evaluate potential discoveries so they can be avoided, protected, or extracted.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-CUL-10	A paleontological monitor will work under the direction of the qualified Project paleontologist and will be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity (i.e., Table Mountain Formation). A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. Because the Miocene-age Table Mountain Formation is locally covered by Pleistocene-age Older alluvium and fanglomerate deposits of unknown thickness, careful monitoring of excavations of the younger deposits will be necessary to ensure that overall monitoring of the Table Mountain Formation is as complete as possible. However, if site-specific geotechnical studies are sufficient to distinguish the geologic contact between the Pleistocene and Miocene sedimentary rock units, this information can be used to more clearly define those portions of the excavations solely sited in the Table Mountain Formation. If this level of detail is achieved prior to excavating activities, a paleontological monitor will need to be on site only on a part-time basis to observe excavation operations that involve the original cutting of previously undisturbed deposits of moderate paleontological resource sensitivity (i.e., older alluvium and fanglomerates deposits).	This measure will ensure that a qualified paleontological monitor is on site to evaluate any potential discoveries of significant paleontological resources in areas of high sensitivity.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-CUL-11	In the event that fossils are encountered, the Project paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. When fossils are discovered, the paleontologist (or paleontological monitor) will recover them along with pertinent stratigraphic data. In most cases, this fossil salvage can be completed in a short period of time. Because of the potential for recovery of small fossil remains, such as isolated mammal teeth, recovery of bulk-sedimentary-matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections.	This measure will ensure that any potentially significant discoveries of paleontological resources are properly evaluated and recovered.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-GEO-01	SDG&E will consider the recommendations and findings of final Geotechnical Reports prepared by URS and the contractor's Geotechnical Engineer in the final design of all Project components to ensure that the potential for expansive soils and differential settling is compensated for in the final design and construction techniques. In addition, SDG&E will comply with all applicable codes and seismic standards. The final design will be reviewed and approved by a Professional Engineer registered in the State of California prior to construction.	Impacts from geological conditions or geological phenomenon on utility lines and substations are primarily a concern for public safety. Construction of transmission lines and substations are influenced by the Institute of Electrical and Electronics Engineers and regulated by state building codes. SDG&E also maintains stringent design standards to ensure the safety of its facilities. This measure ensures that site-specific conditions are considered in the final design of the Project and requires documentation from a Professional Engineer that the substation design meets all applicable regulations and safety standards.
APM-HAZ-01	Prior to construction, all SDG&E, contractor, and subcontractor Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs to comply with the applicable environmental laws and regulations associated with hazardous materials.	This measure will reduce the potential of an accidental release of hazardous materials, as well as reduce unnecessary exposure of hazardous materials to workers and the public through training Project personnel.
APM-HAZ-02	A Phase II ESA will be conducted on the existing Boulevard Substation parcel after the equipment has been removed to determine if there is any surface or subsurface contamination. If required by the Phase II investigation, remediation will occur in accordance with all applicable federal, state, and local regulations.	A Phase II ESA will ensure that future use of the Boulevard Substation parcel will not result in a significant hazard to the public or the environment from unknown contaminated soils.
APM-HAZ-03	During the Boulevard Substation dismantling process, the existing equipment to be dismantled will be tested in accordance with federal, state, and local standards to determine appropriate recycle, reuse, or disposal alternatives.	This measure ensures that workers or the public are not exposed to hazardous materials, such as asbestos or lead, during dismantling of the Boulevard Substation. In addition, it requires the recycling or reuse of materials where feasible.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-HAZ-04	Soil testing for lead contamination will be conducted for all excavation sites within 500 feet of the informal shooting ranges. In addition, an Unanticipated Soil/Lead Contamination Handling Plan will be prepared to address the procedures to follow in the event that lead contamination is discovered during testing or excavation activities. This plan will contain provisions for a worker lead awareness program, as well as guidelines for the identification, removal, transport, and disposal of lead-impacted materials. This plan will also emphasize that all activities within, or in close proximity to, contaminated areas will follow applicable environmental and hazardous waste laws and regulations.	This measure is intended to prevent worker exposure to lead hazards while constructing the ECO Substation.
APM-HAZ-05	SDG&E will develop a Construction Fire Prevention Plan for the Project and monitor construction activities to ensure its implementation and effectiveness. At a minimum, the Construction Fire Prevention Plan will include the following: – a description of the procedures that will be implemented to minimize the potential to start a fire (including vegetation clearing, parking requirements, etc.), – the requirements of Title 14 of the California Code of Regulations, Article 8 #918 “Fire Protection,” – relevant components of the SDG&E Wildland Fire Prevention and Fire Safety Electric Standard Practice (2009) included in Attachment 4.7 B: SDG&E Wildland Fire Prevention and Fire Safety Electric Standard Practice, – the fire-fighting equipment (including shovels, axes, and fire extinguishers) that must be maintained on site and in vehicles for the duration of construction,	This measure will reduce the potential to start a wildland fire during construction of the Project.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
	– the appropriate timing and use of fire-protective mats or shields during grinding and welding operations, – emergency response and reporting procedures, and – relevant emergency contact information. SDG&E will provide a draft copy of the Construction Fire Prevention Plan to the California Public Utilities Commission (CPUC), CAL FIRE, the Bureau of Land Management, County of San Diego, and local community fire departments at least 90 days before the start of any construction activities. Agency comments on the Construction Fire Prevention Plan will be provided by SDG&E to all other reviewing parties and SDG&E will resolve each comment in consultation with CAL FIRE. The final Construction Fire Prevention Plan will be approved by CAL FIRE at least 30 days prior to the initiation of construction activities. SDG&E will fully implement the Construction Fire Prevention Plan during all construction activities.	
APM-HAZ-06	SDG&E will implement the Wildland Fire Prevention and Fire Safety Electric Standard Practice (2009) included as Attachment 4.7–B: SDG&E Wildland Fire Prevention and Fire Safety Electric Standard Practice (2009) during all construction, operation, and maintenance work associated with the Project.	This measure will reduce the potential to start a significant wildland fire during construction, operation, and maintenance activities.
APM-HYD-01	SDG&E will compensate for permanent impacts to any waters of the U.S. and state-only waters at a minimum ratio of one to one or as required by the U.S. Army Corps of Engineers, CDFG, and the Regional Water Quality Control Board through their respective permitting processes	This measure will ensure there is no net loss of waters of the U.S and state by compensating for permanent losses of the swales at the ECO Substation.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-HYD-02	If groundwater wells at ECO Substation are drilled within 0.5 mile of any local wells used for residential water supply, the water level in existing wells will be monitored and frequent communications will occur with the owner during construction to ensure that water availability is not adversely affected.	This measure will ensure that residential use of groundwater in the vicinity of the ECO Substation is unaffected.
APM-NOI-01	Construction activities will occur during the times established by the local ordinances (generally between 7 a.m. and 7 p.m. Monday through Saturday), with the exception of certain activities where nighttime and weekend construction activities are necessary, including, but not limited to, delivery of substation transformers, filling of substation transformers, system transfers, pouring of foundations, and pulling of the conductor, which require continuous operation or must be conducted during off-peak hours per agency requirements. For any work that cannot occur during those timeframes, SDG&E will limit construction activities so that noise will not exceed an hourly average of 45 dB when measured at the border of the nearest parcel with an inhabited residence. If activities cannot be limited to meet this noise threshold, SDG&E will communicate the exception to San Diego County in advance of conducting the work that will exceed the threshold.	This measure is intended to comply with the San Diego County Noise Ordinance as stipulated in Section 36.410 of the San Diego County Code of Regulatory Ordinances.
APM-NOI-02	SDG&E will provide notice of the construction plans to all property owners within 300 feet of the Project by mail at least one week prior to the start of construction activities. The announcement will state the construction start date, anticipated completion date, and hours of operation, and well as provide a telephone contact number for receiving questions or complaints during construction.	This measure will ensure proper notice of residents in the vicinity of the Project so as to reduce the potential for noise associated with construction to disrupt residential activities. The measure will also provide residents with a vehicle by which they can resolve noise-related issues and assist in ensuring compliance with APM-NOI-01.

APM Number	Description	Reason for Proposing Measure/How Measure Will Reduce Potentially Significant Impacts
APM-NOI-03	Helicopter operation will be prohibited during construction of the 138 kV transmission line in the immediate vicinity of pole SP-52, located at approximate MP 7.3, and between pole SP-26, located at approximate MP 10.5, and the Rebuilt Boulevard Substation. If helicopter use cannot be avoided in these locations, SDG&E will temporarily relocate the impacted residents, on an as-needed basis, for the duration of the helicopter use that would impact them.	This measure will ensure that noise from helicopter activity remains below the county ordinance threshold in order to reduce impacts to noise-sensitive receptors to a less-than-significant level. In the event the threshold limitation cannot be met, this measure will ensure that noise-sensitive receptors are not adversely impacted by construction noise above the threshold level.

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project and the alternatives considered. Under the CEQA, the intent of analyzing alternatives is to identify ways to mitigate or avoid the significant effects of the Proposed Project on the environment (Public Resources Code Section 21002.1). The discussion of alternatives only needs to focus on the alternatives to the Proposed Project or the locations that are capable of avoiding or substantially decreasing the significant impacts of the Proposed Project. In accordance with CPUC requirements, SDG&E evaluated a reasonable range of alternatives that have the potential to avoid or substantially lessen significant impacts of the Proposed Project.

This environmental alternatives analysis evaluates the No Project Alternative, three system or facility alternatives to the Proposed Project as a whole, eight alternative locations for the ECO Substation, five segment alternatives for the 138 kV transmission line, and two segment variations for the 138 kV transmission line. Each alternative is evaluated for its feasibility and ability to fulfill the Proposed Project objectives, as well as ability to reduce environmental impacts compared to the Proposed Project. Table 5-2: Alternatives Considered lists each alternative that was considered during the alternatives evaluation process. Figure 5-1: Project Alternatives Map shows the location of each alternative on an aerial-based map. All of the site and route alternatives are located in the southeastern portion of San Diego County.

System alternatives that were clearly not feasible were rejected early in the evaluation process and are not discussed in this document. Alternatives to the Proposed Project that were evaluated, including the No Project Alternative, are summarized in Section 5.2.3 No Project Alternative. Feasible alternatives that were considered but eliminated because they did not meet the Proposed Project objectives or reliability requirements are discussed briefly in Section 0.0.0 Substation Alternatives.

5.2.1 Methodology

The CEQA does not provide specific direction regarding the methodology of alternatives comparison. Resource areas that are generally given more weight in comparing alternatives are those with long-term impacts, such as visual impacts, permanent loss of habitat, or land-use conflicts. Impacts associated with construction (i.e., temporary or short-term) or those that are easy to mitigate to the less-than-significant level are considered to be less important.

In order to evaluate the alternatives listed in Table 5-2: Alternatives Considered, SDG&E used a multi-tiered approach. SDG&E began with the system alternatives to determine which was preferred. After making the determination that the Proposed Project was the appropriate system solution to meet the project objectives, SDG&E selected a number of potential substation sites for evaluation. After a preferred substation site was selected, SDG&E proceeded to evaluate potential 138 kV transmission routes between that preferred site and the existing Boulevard Substation. This analysis resulted in the selection of the preferred ECO Substation location and 138 kV transmission route.

Table 5-2: Alternatives Considered

Type of Alternative	Alternative	Evaluated or Eliminated
No Action Alternatives	No Action Alternative	Evaluated
System Alternatives	69 kV loop into the Boulevard Substation from the Cameron Tap	Eliminated
	No 138 kV Alternative	Eliminated
	Imperial Valley 230 kV Transmission Line Extension	Eliminated
	Connecting to the Sunrise Powerlink Project	Eliminated
Substation Site Alternatives	Campo	Evaluated
	Jacumba	Eliminated
	Ketchum Ranch	Eliminated
	A-1	Evaluated
	A-3	Evaluated
	A-4	Evaluated
	B-1	Eliminated
	B-2 (Preferred)	Evaluated
	B-5	Evaluated
Transmission Line Segment Alternatives	Old Highway 80	Evaluated
	Jacumba	Evaluated
	SWPL (Preferred East)	Evaluated
	Jewel Valley Road	Evaluated
	Tule Jim Lane (Preferred West)	Evaluated
Transmission Line Segment Variation Alternatives	Jewell Valley Road between Milepost 11.5 and 12.4	Eliminated

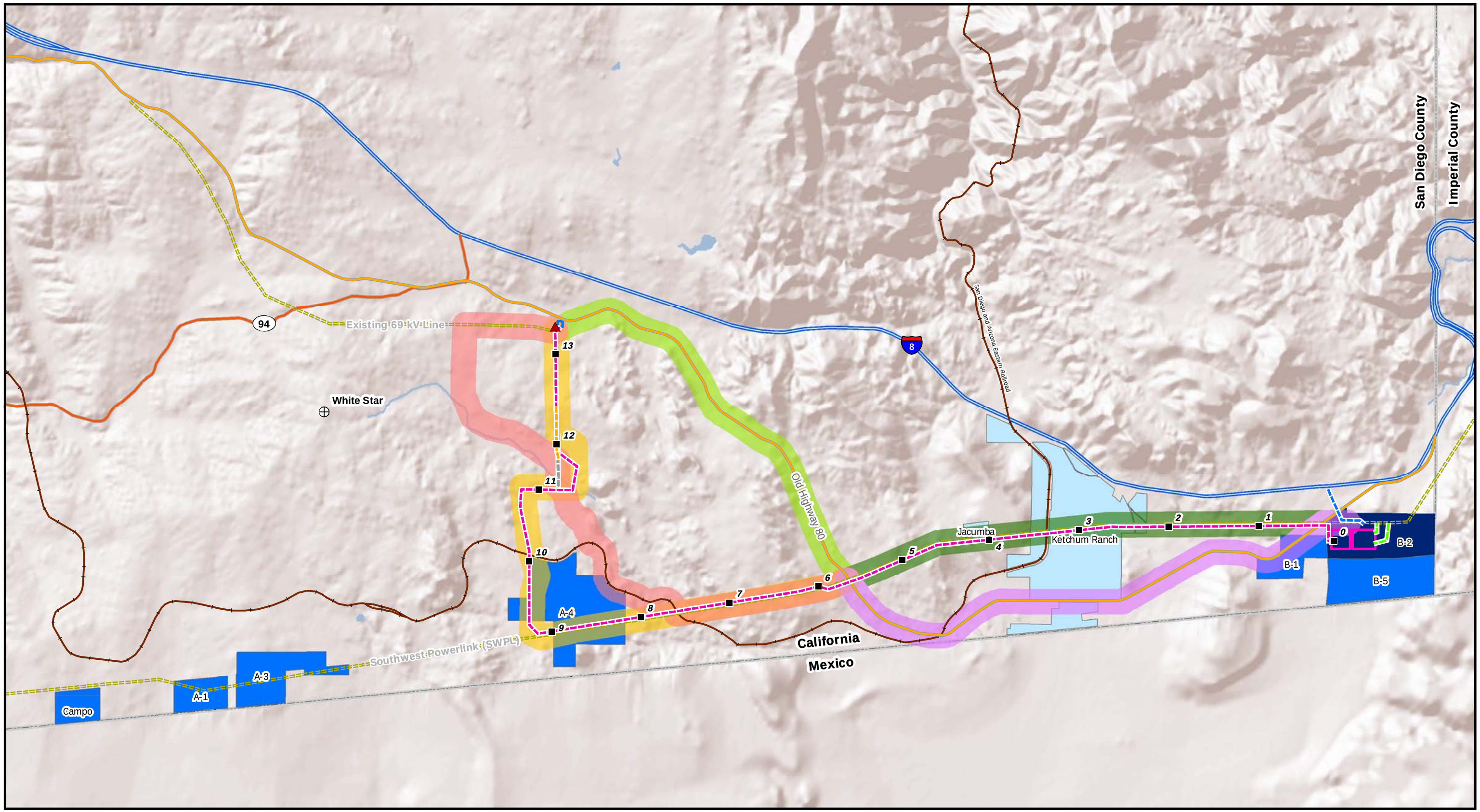

Figure 5-1: Project Alternatives Map

East County Substation Project

- Proposed SWPL Loop-In
- Proposed 138 kV Line
- Proposed 12 kV Temporary Distribution Tap
- 445 Circuit Collocated with 138 kV Line
- Existing Transmission Line
- Proposed ECO Substation
- Boulevard Substation Rebuild
- Proposed 138 kV Line Milepost
- Existing Boulevard Substation
- Communication Facility
- Highway 80 Route Alternative
- Jacumba Route Alternative
- Jewel Valley Road Route Alternative
- SWPL Route Alternative
- Tule Jim Route Alternative
- Tule Jim Route Underground Variation
- Eliminated Potential Substation Site
- Evaluated Potential Substation Site
- Proposed Substation Site
- Interstate
- Highway
- Major Road
- Railroad

SDGE A Sempra Energy utility

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In general, the Proposed Project components were analyzed based on their ability to meet the Proposed Project objectives, engineering issues, feasibility factors, and environmental constraints. Potential impacts to aesthetics, biological resources, cultural resources, hydrology and water quality, and land use were evaluated for each substation and transmission line alternative by conducting field surveys, literature reviews, and desktop research. Each alternative was ranked based on relative environmental site constraints and the likelihood that the constraints could be avoided through Proposed Project design and construction. The specific selection criteria for each Proposed Project component are provided in their respective sections.

Because the Southwest Powerlink (SWPL) loop-in is associated with the proposed ECO Substation site and the communication equipment that will be installed at the White Star Communication Facility rebuild site is an expansion of an existing facility, alternatives for these project components were not evaluated.

5.2.2 Proposed Project Objectives

The Proposed Project is being proposed to meet objectives identified by SDG&E and the CPUC. Specifically, the Proposed Project has the following six primary objectives:

1. Provide an interconnection hub for renewable generation that eliminates the need for multiple generator-owned or -operated switching stations along SDG&E's existing SWPL 500 kV transmission line.

2. Expand the interconnection capability of the southeastern transmission system to accommodate all of the region's planned renewable generation (based on data in the California Independent System Operator [CAISO] Generator Interconnection Queue as of June 2009) and provide for future as-yet-unplanned generation, thus increasing opportunities for California investor-owned utilities to meet or exceed California's renewable energy source mandate of 20 percent by 2010 and Governor Schwarzenegger's proposed goal of 33 percent renewable energy sources by 2020.

3. Facilitate the interconnection of renewable generation sources in the Boulevard area.

4. Create a Supervisory Control and Data Acquisition-controlled, normally open loop in the southeastern transmission system to improve control, increase operational flexibility, and enhance the reliability of the regional transmission system.

5. Provide a second source for the southeastern transmission system that avoids the vulnerability of common structure outages, thus increasing the reliability of electrical service for Boulevard, Jacumba, and the surrounding communities.

6. Maximize the use of existing utility ROWs and access roads and follow Garamendi Principles[1] for the transmission component of the Proposed Project.

[1] California Senate Bill 2431, Chapter 1457, declared that it is in the best interest of the state to conduct transmission siting according to the following principles ("Garamendi Principles"): 1. Encourage the use of existing ROW by upgrading existing transmission facilities where technically and economically justifiable. 2. When construction of

The five Proposed Project components, their location, the Proposed Project's preliminary configuration, and the existing and proposed system configuration, are presented in Chapter 3 – Project Description. Each of the Proposed Project objectives is more thoroughly described in Chapter 2 – Purpose and Need.

5.2.3 No Project Alternative

The CEQA requires an evaluation of the No Project Alternative so that decision makers can compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project (CEQA Guidelines, Section 15126.6(e)). Under the No Project Alternative, the ECO Substation and 138kV transmission line would not be constructed. The Boulevard Substation would not be rebuilt and the White Star Communication Facility would not be rebuilt. The existing 13-mile-long 69 kV radial lines from Cameron tap to Crestwood Substation and from there to Boulevard Substation would continue to operate on a single-circuit 69 kV feed and would not be capable of supporting new generation interconnection.

The No Project Alternative would not meet any of the Proposed Project's six objectives. Planned generation facilities, such as the six wind generation projects proposed for the region, would require additional miles of transmission line to reach an interconnection point and possibly multiple connection points on SDG&E's existing transmission system. In addition, new substations to be constructed by each generator might be required to connect the generation facilities to the grid. The construction of these transmission lines and possible substations would result in greater impacts than that of the Proposed Project due to their length and varying locations, as opposed to the location of a single interconnection point in the proposed ECO Substation. The No Project Alternative, therefore, would likely result in greater impacts to at least visual, land use, biological, and cultural resources, if longer transmission routes and multiple substations were required.

5.2.4 System Alternatives

Four potential system alternatives to the Proposed Project were evaluated; however, none of them were found to meet the Proposed Project objectives, as described further in the following subsections.

Eliminate the 138 kV Transmission Line from the Proposed Project

This alternative would include building a new substation in the location of the preferred ECO Substation site, but only constructing the 500 kV and 230 kV yards and eliminating the 138 kV extension from the new substation to the rebuilt Boulevard Substation. This alternative meets the Proposed Project objectives 1 and 2 because it includes construction of a new 500/230 kV substation and the rebuild of the existing Boulevard Substation. This alternative provides an interconnection point for renewable generation sources, but to a lesser extent, because it does not provide a 138kV bus at the ECO Substation and does not provide an outlet to support the generation proposed for interconnection at the Boulevard Substation. In addition, this alternative

new transmission line is required, encourage expansion of existing ROW, when technically and economically feasible. 3. Provide for the creation of new ROW when justified by environmental, technical, or economic reasons as determined by the appropriate licensing agency. 4. Where there is a need to construct additional transmission capacity, seek agreement among all interested utilities on the efficient use of that capacity.

does not address objectives 3, 4, 5, or 6. Objectives 3, 4, and 5 are not met because the connection from the ECO Substation to Boulevard would not occur as part of this alternative because the 138 kV line between the two substations is omitted. As a result, potential interconnections at Boulevard would be limited to existing infrastructure, and the reliability and flexibility of service in the area would remain the same. Objective 6 would not be met because there would be no new power line to follow existing linear features. Generation potential north of Boulevard Substation would require extensive transmission line rebuilding or transmission extensions. The 69 kV system would continue to have a 13-mile radial line serving two substations, as well as the outage exposure and maintenance problems associated with a long radial branch. Because this alternative would not meet most of the Proposed Project objectives, it was eliminated from further evaluation.

Build a 500/230 kV Substation, Rebuild Boulevard Substation, and Create a 69 kV Loop into the Boulevard Substation from the Boulevard Tap

This alternative completely eliminates the 138 kV from the Proposed Project's 500/230/138 kV substation and eliminates the 138 kV extension from the ECO Substation to the Boulevard Substation. In this alternative, a 69 kV loop would be created by rebuilding 13 miles of single-circuit pole line to a double-circuit pole line, creating a loop from the Cameron Tap to the Boulevard Substation. Specifically, this alternative would re-conductor and/or rebuild the TL6931 (Boulevard Substation to Crestwood Substation) and TL629E (Crestwood Substation to Cameron tap) from a single-circuit TL to a double-circuit, creating a 69 kV loop by tying the two ends at the Cameron tap to the existing TL629C and TL629D. In addition, this alternative would include rebuilding the Boulevard Substation.

This alternative meets Proposed Project objective 1 because it includes a new 500/230 kV substation, as well as reconstruction of the existing Boulevard Substation, thereby providing an interconnection point for renewable generation sources. However, it does not provide a 138 kV bus at the ECO Substation for generation interconnection, so objective 1 is not met to the same extent as the Proposed Project. It would meet objective 6 because the new 69 kV loop would be a rebuild of an existing line. This alternative does not fully satisfy objective 2 and does not meet objective 3 because, even though another transmission line from the Boulevard Tap to the Boulevard Substation would be constructed, the southeastern transmission system would not have enough capacity to support the generation proposed for connection at the Boulevard Substation. This alternative would not meet objective 4 because the transmission line would not be a normally open loop system. While this alternative would increase the reliability and flexibility of the existing 69 kV transmission system by creating a loop, the loop would share common structures the entire distance, making it vulnerable to common-structure outages (e.g., fires, car/pole contacts, wind, etc.), thus not meeting objective 5. In addition, if a distribution substation is ever needed in the area, no 138 kV yard would be at the ECO Substation to serve the distribution substation. Either a 230 kV line would have to be extended from the ECO Substation or the 69 kV line would have to be extended from the Boulevard Substation. As a result, this alternative was eliminated from further evaluation.

Build a New 230 kV Switchyard and Extend a 230 kV Line from the Imperial Valley Substation

This alternative completely replaces the Proposed Project. In its place, a 230 kV switchyard would be built and a 230 kV line would be extended from the Imperial Valley Substation west approximately 30 miles to the new switchyard. This alternative would significantly limit the amount of generation that could be connected both by the 230 kV line rating and the 230 kV transformer at the Imperial Valley Substation. At best, with bundled conductor and a fully loaded and dedicated transformer at the Imperial Valley Substation, 1,100 megavolt-amperes might be interconnected. This would be slightly more than half of the nearly 2,000 megawatts in the current CAISO queue (as of June 2009).

This alternative does not meet any of the Proposed Project objectives. It would severely limit the amount of generation that could interconnect, and would only provide for 230 kV interconnections. It also would not provide an additional feed for the existing transmission system. In addition, if a distribution substation is ever needed in the area in the future, no 138 kV switchyard would exist to serve the distribution substation. Either the 230 kV line would have to be extended from the new switchyard or a 69 kV line would have to be extended from the Boulevard Substation. As a result, this alternative was eliminated from further consideration.

Connecting to the Sunrise Powerlink Project

If enough generation develops in the area it would be beneficial for both the Sunrise Powerlink and the SWPL to be looped into the ECO Substation. A major advantage of looping in the SWPL first is that the outlet capability from the SWPL at the Miguel Substation is higher than the outlet capability of the Sunrise Powerlink at the Sycamore Substation. If the Sunrise Powerlink was looped in before the SWPL, it is anticipated that upgrading the Sycamore Substation outlet with something like the Coastal link segment of Sunrise would be required. Another advantage of going with the SWPL first is that SDG&E will not interfere with or have to wait on the Sunrise Powerlink construction activities to interconnect renewable generation.

5.2.5 Substation Alternatives

A total of nine substation sites were initially considered for construction of the ECO Substation. Of these, three were eliminated during the preliminary screening effort. The remaining six sites were fully evaluated based on the criteria identified under Evaluated Alternatives. From these six, a preferred substation location was determined.

Eliminated Alternatives

This section describes the three eliminated substation locations.

Ketchum Ranch

This alternative site was eliminated because the site is in active agricultural production and is in close proximity to the town of Jacumba, Interstate (I-) 8, and Old Highway 80, resulting in potential land use and visual impacts. A portion of the site is designated as prime agricultural land. In addition, a residential housing project has been proposed for the site, with which the Proposed Project would likely conflict.

Jacumba

This alternative substation site was eliminated because the entire site is located within critical habitat for the QCB and near a USFWS reference population of the species. Construction of the substation at this location would cause a significant impact to this federally listed species and its critical habitat. In addition, the Jacumba site is situated significantly further away from the wind generation planned in Mexico, which would require the construction of approximately 3.5 additional miles of 500 kV or 230 kV transmission lines in order to connect the generation to the proposed substation.

B-1 Site

This site was eliminated without further review because a minor geological fault traverses the property, making it less desirable to construct the substation on the site. In addition, large slopes on the site would require significant grading.

Evaluated Alternatives

This section describes the six alternative substation locations.

Campo Site

Located south-southeast of the unincorporated community of Campo, the approximately 137-acre Campo Site is bordered by Tierra Estrella Road to the north, the U.S.-Mexico international border to the south, and predominantly undeveloped land to the west and east. The Campo Site is generally level and is not near any notable topographic features. There is one residence located within the Campo Site and approximately six rural residences within 1,000 feet of the site; two additional residents are located within 0.5 mile. The site is approximately six miles from the southern terminus of the Pacific Crest National Scenic Trail and is adjacent to the Campo Indian Reservation (Kumeyaay Nation) and located on tribal-owned land.

No sensitive plant or animal species are known to occur within the Campo Site; however, two sensitive animal species—coast (San Diego) horned lizard (*Phrynosoma coronatu, blainvilli*) and southern grasshopper mouse (*Onychomys torridus ramona*)—are known to occur within one mile of the Campo Site, and one species—San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)—is known to occur within five miles. The CDFG lists all three of these species as Species of Special Concern. In addition, the site contains large areas of chaparral with large rocky outcrops that are known to support several sensitive wildlife species, including barefoot banded gecko (*Coleonyx switaki*), QCB, least Bell's vireo (*Vireo bellii pusillus*), San Diego desert woodrat (*Neotoma lepida intermedia*), and American badger (*Taxidea taxus*).

There are no previously recorded cultural resource sites or historic addresses within the Campo Site. Because a majority of the footprint has not been previously surveyed for cultural resource sites, the Campo Site is considered to have a moderate likelihood for undiscovered cultural resources. Additionally, no major rivers, streams, lakes, or ponds are within or adjacent to the site.

Due to the site's close proximity to the U.S.-Mexico international border, a heightened security risk is associated with this site. In addition, this site is a significant distance (approximately 13

miles) from proposed wind-generating facilities and more than 10 miles from any major roadway.

A-1 Site

The approximately 160-acre A-1 Site is located between the unincorporated communities of Campo and Boulevard and is bordered by Tierra Del Sol Road to the north, the U.S.-Mexico international border to the south, and predominantly undeveloped land to the west and east. The A-1 Site is relatively level and is not near any notable topographic features. It is located within a low-density rural residential area and within 1,000 feet of approximately 12 residences. Additionally, approximately 20 residences are located within 0.5 mile of this site, some of which are located across the border in Mexico. The A-1 Site is not located in close proximity to any scenic routes, public open spaces, or recreational trails.

Two sensitive plants species—desert beauty (*Linanthus bellus*) and sticky gerea (*Geraea viscid*)—have known occurrences within the site. Jacumba milkvetch (*Astragalus douglasii* var. *perstrictus*) and Tecate tarplant (*Deinandra floribunda*) occur within one mile of the site. No historical records of sensitive animal species occur within the A-1 Site; however, two CDFG Species of Special Concern—coast (San Diego) horned lizard and southern grasshopper mouse—have known occurrences within one mile of the site. In addition, the San Diego black-tailed jackrabbit has been observed within five miles of the A-1 Site. As with the Campo Site, the A-1 Site contains large areas of chaparral with large rocky outcrops, which are known to support several sensitive wildlife species.

There are no previously recorded cultural resource sites or historic addresses within the A-1 Site. Although two cultural surveys covering approximately half of the site have been performed, the other half of the site has not been surveyed. Additionally, these surveys may not be reliable, as conditions in the area may have changed and the standards for survey work are more rigorous today than they have been in the past. Therefore, the site is considered to have a moderate likelihood for undiscovered cultural resources. Additionally, no noteworthy hydrological features are within or adjacent to the site. Due to the site's close proximity to the U.S.-Mexico international border, a heightened security risk is associated with this site. In addition, this site is a significant distance (approximately 11.5 miles) from proposed wind-generating facilities and more than eight miles from any major roadways.

A-3 Site

As with the A-1 Site, the 288-acre A-3 Site is bordered by Tierra Del Sol Road to the north, the U.S.-Mexico international border to the south, and predominantly undeveloped land to the west and east. The A-3 Site is generally level and located in the most populated area, as compared to the other alternatives. The site is within 1,000 feet of approximately 28 residences on both sides of the U.S.-Mexico border and within 0.5 mile of approximately 50 residences. On the U.S. side, the residences are generally distributed along the Tierra del Sol Valley. The site is also located approximately one mile from Rattlesnake Mountain, which lies on land managed by the Bureau of Land Management (BLM). Additionally, a portion of the A-3 Site is currently designated as an agricultural preserve by the County of San Diego.

Two sensitive plant species—desert beauty and sticky gerea—have known occurrences within the A-3 Site. In addition, the Tecate tarplant has been observed within one mile of the site and Jacumba milkvetch and southern jewel flower (*Streptanthus campestris*) occur within five miles of the site. No sensitive animal species are known to occur within the site; however, the coast (San Diego) horned lizard has been recorded within one mile of the site. In addition, two CDFG Species of Special Concern—the San Diego black-tailed jackrabbit and southern grasshopper mouse—have known occurrences within five miles of the site.

Approximately one third of the central area of the A-3 Site has been previously surveyed for cultural resources. Past surveys have revealed two cultural sites within the area—CA-SDI-6999 and CA-SDI-7000H. CA-SDI-6999 is described as a sparse scatter of prehistoric ceramic sherds and CA-SDI-7000H is described as a historic era ranch site with several wrecked automobiles, agricultural machinery, a portion of a railroad track, and metal and wood debris. Based on the overall setting, previous survey results, and general condition of the site, there is a moderate to high potential for the discovery of additional cultural resource materials.

No noteworthy hydrological features exist within or adjacent to the site. Due to the site's close proximity to the U.S.-Mexico international border, a heightened security risk is associated with this site. In addition, this site is a significant distance (approximately 11 miles) from proposed wind-generating facilities and more than eight miles from any major roadways.

A-4 Site

The A-4 Site is located south of the unincorporated community of Boulevard, approximately 500 feet north of the U.S.-Mexico international border, approximately 100 feet south of a railway, and predominantly surrounded by undeveloped land to the west and east. The A-4 Site has relatively varied topography and includes Lake Domingo, a portion of Jewel Valley, and a large portion of Boundary Peak—a distinctive cinder-cone landform. Portions of the site have riparian tree cover associated with Jewel Valley and Lake Domingo. The site is within 0.5 mile of approximately four residences. It is adjacent to land managed by the BLM to the north and southeast, and is approximately one mile from Rattlesnake Mountain. The site is approximately three miles from I-8 and Highway 94, and approximately 2.25 miles from Old Highway 80.

No sensitive plant species are known to occur within the A-4 Site. One sensitive plant species—Tecate tarplant—has a known occurrence within one mile. Sensitive species with known occurrences within five miles include desert beauty, Jacumba milkvetch, Parry's tetracoccus (*Tetracoccus dioicus*), pygmy lotus (*Lotus haydonii*), slender-leaved ipomopsis (*Ipomopsis tenuifolia*), and sticky gerea. One CDFG Species of Special Concern—coast (San Diego) horned lizard—is known to occur on the site. In addition, one federally listed species—QCB—and one CDFG Species of Special Concern—San Diego black-tailed jackrabbit—have known occurrences within five miles of the site.

Three cultural surveys have been completed within portions of the site, covering approximately one quarter of the total area. Results from the three surveys revealed four recorded sites that contained sparse scatter of prehistoric ceramic sherds, a small rock shelter with one associated oval bedrock milling basin, and a sparse debitage scatter. Based on the number and type of previously discovered cultural resources and the overall natural setting, the A-4 Site has been

determined to have a high likelihood of additional cultural resource sites. The site also contains five wetlands, as depicted on National Wetland Inventory (NWI) wetland maps. Additionally, this site is a significant distance (7.5 miles) from proposed wind-generating facilities.

B-2 Site

The B-2 Site is located in the southeastern corner of San Diego County and is approximately 0.5 mile north of the U.S.-Mexico international border. The eastern side of the site is adjacent to the Imperial County border, Table Mountain and I-8 are located to the north, undeveloped land is located to the south, and undeveloped land and Old Highway 80 are located to the west. The B-2 Site is generally level, and one residence is within 0.5 mile; however, this site lies adjacent to BLM land and is approximately 0.5 mile from the Jacumba National Cooperative Land and Management Area—an area protected by the California Desert Protection Act. It is also approximately two miles from Anza-Borrego Desert Park. The site includes a portion of Jade Peak. The site is less than 0.25 mile from Nopal Peak, 0.5 mile from Whip Peak, and one mile from Blue Angels Peak. The site is within 500 feet of State Historic Route 80 and 0.3 mile of I-8. It is in close proximity to the location of anticipated wind generation, which is north and east of the site.

Slender-leaved ipomopsis and sticky gerea are known to occur within the B-2 Site. Five additional sensitive plant species occur within one mile of the site. These include creamy blazing star (*Mentzelia tridentata*), desert beauty, Jacumba milkvetch, Mount Laguna aster (*Dieteria asteroides* var. *lagunensis*), and Mountain Springs bush lupine (*Lupinus excubitus* var. *medius*). Within five miles of the site, five additional sensitive plant species occur, including desert spike-moss (*Selaginella eremophila*) Mexican hulsea (*Hulsea mexicana*), Parry's tetracoccus, pygmy lotus, and Tecate tarplant.

Two CDFG Species of Special Concern—pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) and southern grasshopper mouse—are known to occur within the B-2 Site. Two federally listed species—QCB and Peninsular bighorn sheep (*Ovis canadensis nelson*)—and one CDFG Species of Special Concern—Cooper's hawk (*Accipiter coopereii*)—are known to occur within five miles of the site.

Three cultural surveys and two survey projects associated with the Jacumba Archaeological District have been conducted within this site. Results from the surveys revealed that the B-2 Site contains 10 recorded prehistoric sites. All of these sites, with the exception of one, are recorded in the northern portion of the site on previously surveyed land within the SWPL corridor. The majority of the site has not been surveyed and is considered to have a high likelihood for additional cultural resource site discoveries.

One designated blue-line drainage, Boulder Creek, occurs in the far northeastern corner of the B-2 Site; however, the proposed ECO Substation footprint would not impact this drainage.

B-5 Site

As with the B-2 Site, the B-5 Site is located in the southeastern corner of San Diego County, directly adjacent to the U.S.-Mexico international border to the south and the Imperial County border to the east. Undeveloped open space surrounds the B-5 Site to the west and the north.

The B-5 Site is generally level and no residences lie within 0.5 mile of the site. The site is approximately one mile from the Jacumba National Cooperative Land and Management Area, an area protected by the California Desert Protection Act. It is approximately three miles from Anza-Borrego Desert Park. The site is also approximately 0.3 mile from Whip Peak, 0.5 mile from Nopal Peak, and less than one mile from Blue Angels Peak. The site is approximately 0.3 mile from Old Highway 80 and within one mile of I-8. It is in close proximity to the location of anticipated wind generation, which is north and east of the site.

Slender-leaved ipomopsis is the only sensitive plant species known to occur within the B-5 Site. Five sensitive plant species—desert beauty, Jacumba milk vetch, Mount Laguna aster, Mountain Springs bush lupine, and sticky gerea—have been known to occur within one mile of the site. Six sensitive plant species—creamy blazing star, desert spike-moss, Mexican hulsea, Parry's tetracoccus, pygmy lotus, and Tecate tarplant—have been observed within five miles of the site.

No sensitive animal species are known to occur within the B-5 Site. The pallid San Diego pocket mouse is the only special-status species known to occur within one mile of the site. Two federally listed species—QCB and Peninsular bighorn sheep—and one CDFG Species of Special Concern—Cooper's hawk—are known to occur within five miles of the site.

One cultural survey has been conducted in the northwest corner of the B-5 Site, resulting in the record of one site described as a sparse scatter of prehistoric ceramic sherds. Based on the overall location and conditions, the B-5 Site has a high likelihood of cultural resources and/or isolate discovery. Additionally, one blue-line drainage runs east-west through this site and would be impacted during construction of the proposed substation. Due to the site's close proximity to the U.S.-Mexico international border, a heightened security risk is associated with this site.

Evaluation

Criteria

Evaluation of the alternative sites was based on the following differentiating criteria:

Engineering
- Proximity to new generation
- Parcel size
- Ability to bring in additional transmission with respect to the substation location and layout
- Grading requirements and topography
- Proximity to the existing SWPL 500 kV transmission line
- Proximity to existing access (roads, highways, etc.)
- Security

Environmental
- Potentially sensitive species and habitat on site
- Known cultural resources and cultural resource sensitivity
- Visibility from residences, scenic routes, and public areas

- Hydrological features on site

These factors can decrease the desirability of sites and, in many cases, make them infeasible. In addition, activities such as constructing lengthy access roads or significantly increasing the length of a transmission line route may incrementally increase environmental impacts.

Analysis

All six alternative substation sites are situated on predominantly vacant land with sparse dirt roads and off-road vehicle trails. According to the San Diego County Regional Land Use Element, the six alternative sites are all located in the Rural Development Area and designated as Multiple Rural Use. Each site is zoned as General Rural, with the exception of the northern portion of the A-3 Site, which is zoned as General Agriculture. This portion of the A-3 Site is currently designated as an agricultural preserve by San Diego County and is eligible for entry into a Williamson Act contract. The Campo Site is on land owned by the Campo Indian Reservation and its use could conflict with future plans of the Kumeyaay Nation.

Campo, A-1, A-3, and A-4 sites were not selected as preferred sites because of their significant distance from potential wind-generating facilities relative to the other sites considered. Additionally, these sites were not in close proximity to any major roadways, making access and ability to transport major equipment to the site difficult. Security at the Campo, A-1, and A-3 sites would also be elevated because of their close proximity to the U.S.-Mexico border. Although not adjacent to the U.S.-Mexico border, the A-4 Site was not preferred because of its high potential for cultural resource discoveries, the presence of agricultural land, and the abundance of NWI wetlands on site.

Although the B-5 and B-2 sites are considerably closer to proposed wind-generation facilities and contain similar biological and cultural constraints, the B-5 Site was not selected because it is adjacent to the U.S.-Mexico border, less accessible, contains a blue-line drainage, and is further from the SWPL.

Although the eastern portion of the B-2 Site is located in critical habitat for Peninsular bighorn sheep, the permanent footprint of the ECO Substation can be located on the westerly side of the site, outside of the critical habitat. The B-2 Site was also selected as the preferred site because of its close proximity to Old Highway 80 and I-8 (500 feet and 0.3 mile, respectively). Lastly, the B-2 Site is accessible from existing dirt roads used for operation and maintenance of the SWPL. With improvements, these existing access roads can be used to access the ECO Substation and the SWPL loop-in components of the Proposed Project.

5.2.6 Transmission Route Alternatives

Once the location of the preferred substation site was identified, SDG&E proceeded to evaluate potential transmission line routes to connect the identified site to the rebuilt Boulevard Substation. The Proposed Project area is surrounded by steep, rugged, rocky terrain, leaving few options for transmission line routes that will result in minimal ground disturbance. The alternative routes that were studied follow existing road networks to reduce the amount of new access and spur roads, as well as site poles in areas that have the least engineering constraints. Five corridor segments—SWPL, Tule Jim Lane, Jacumba, Old Highway 80, and Jewel Valley

Road—were identified as possible segments, two of which could be combined to create transmission line routes. These five segments are shown in Figure 5-1: Project Alternatives Map and are described as follows.

Evaluated Alternatives

Five potential transmission segment alternatives were evaluated before final determination of the preferred route was made. Of these segments, three—Jewel Valley Road, Old Highway 80, and Tule Jim Lane—could potentially constitute the western portion of the route and two—SWPL and Jacumba—could potentially constitute the eastern portion of the route. All of the potential transmission line segments converge at the intersection of the SWPL and Old Highway 80, which would allow for one eastern route and one western route to be selected in order to make up the entire transmission route.

Western Segment Alternatives

Jewel Valley Road

From the intersection of the SWPL and Old Highway 80, the Jewel Valley Road segment would run west along the SWPL approximately 1.9 miles before heading northwest along an existing railroad line for approximately 1.4 miles. After paralleling the railroad line, the route would continue northwest near Jewel Valley Road for approximately 3.1 miles before intersecting with an existing SDG&E 69 kV transmission line approximately one mile west of the Boulevard Substation. The line would then parallel the existing line east to the Boulevard Substation. This transmission line segment would require the construction of new transmission poles for approximately 7.6 miles to accommodate the new line. There are 16 known cultural resource sites along this segment and it is considered to have high cultural resource sensitivity. While this segment transverses less critical habitat for the QCB—approximately 1.4 miles—than the Old Highway 80 segment, it is longer than the Tule Jim Lane segment.

Old Highway 80

The Old Highway 80 transmission line segment would follow and overbuild an existing electrical distribution line and would run northwest for approximately 4.8 miles, from the intersection of the SWPL and Old Highway 80, through the unincorporated communities of Bankhead Springs and Boulevard, parallel to Old Highway 80. Overbuilding along the distribution line would require the removal and replacement of wooden poles with taller, steel poles. The new poles would support the existing distribution lines on the lower arms of the structures, with the 138 kV transmission line on the upper arms. There are 12 known cultural resource sites along this segment and it is considered to have moderate cultural resource sensitivity. This route is approximately 4.9 miles long and would be highly visible to multiple homes and vehicle traffic on Old Highway 80 in the Boulevard and Jacumba areas. In addition, the Old Highway 80 segment transverses approximately 2.5 miles of critical habitat for the QCB.

Tule Jim Lane

From the intersection of Old Highway 80 and the SWPL, the Tule Jim Lane alternative would travel west along the SWPL for approximately 3.6 miles before heading north along an existing SDG&E access road for approximately 1.6 miles. The segment then would head east for

approximately 0.6 mile before turning north at an existing dirt road. The line would then travel north for approximately 0.3 mile before heading west to Tule Jim Lane and traveling north approximately 1.4 miles to the Boulevard Substation. The total length of this segment would be approximately eight miles. It is considered to have moderate cultural resource sensitivity. This segment crosses the same amount of critical habitat for the QCB as the Jewel Valley Road segment.

Eastern Segment Alternatives

Jacumba

The Jacumba transmission line segment would follow and overbuild an existing electrical distribution line west approximately six miles from the proposed ECO Substation through the unincorporated community of Jacumba along Old Highway 80 to the intersection of Old Highway 80 and the SWPL. The line would be located within 100 feet of an elementary school and 500 feet from the Jacumba Airport, commonly used by U.S. Border Patrol aircraft. Overbuilding along the distribution line would require the removal and replacement of wooden poles with taller, steel poles. The new poles would support the existing distribution lines on the lower arms of the structures, with the 138 kV transmission line on the upper arms. The total length of this segment would be approximately 6.2 miles. This route is considered to have high cultural resource sensitivity with 22 known cultural resource sites along the segment. In addition, the Jacumba segment transverses approximately 1.4 miles of critical habitat for the QCB.

Southwest Powerlink

The SWPL transmission segment would run west from the proposed ECO Substation, parallel to the existing SWPL ROW for approximately 5.4 miles until its intersection with Old Highway 80. The route would traverse mostly open space and agricultural land north of the community of Jacumba, crossing over an existing railroad and Carrizo Gorge Road. The total length of this segment would be approximately 5.6 miles. With 32 known cultural resource sites along this segment, it is considered to have high cultural resource sensitivity. In addition, the SWPL segment transverses approximately two miles of critical habitat for the QCB.

Evaluation

Criteria

The following criteria were used to evaluate the potential transmission segments and select a preferred route:

Engineering
- Length
- Existing access
- Topography
- Proximity to airports
- Number of parcels traversed
- Impacts to existing radial distribution lines

Environmental

- Potentially sensitive species and habitat
- Known cultural resources and cultural resource sensitivity
- Visibility from residences, scenic routes, and public areas
- Hydrological features
- Existing linear corridors

Analysis

The Old Highway 80 alternative was not selected because it would have visual impacts to local residents in the communities of Boulevard and Bankhead Springs, has known cultural resources, and because it contains a significant biological constraint. The Old Highway 80 route crosses over approximately 2.5 miles of critical habitat for the federally listed QCB, seven blue-line drainages, and two wetland areas. Furthermore, Old Highway 80 is a designated historic highway that is also a candidate for scenic highway designation. This route would also require multiple outages on an existing distribution circuit and would cross a larger number of parcels than the Tule Jim Lane route.

The Jacumba transmission corridor was not selected because it would have significant visual impacts to local residents in the community of Jacumba. It is in close proximity (approximately 100 feet) to an elementary school and the Jacumba Airport (approximately 500 feet) located on Old Highway 80. More than 18 occupied residences are located near the route, which also crosses through designated prime farmland. In addition, 22 known cultural resource sites occur along this segment and the segment is considered to have a high cultural resource sensitivity.

Although similar to the Tule Jim Lane transmission route in terms of biological and cultural resources, the Jewel Valley Road route was not selected because it would require the construction of approximately two miles of additional new access roads than the Tule Jim Lane Alternative. It would also be close to designated Farmland of Local Importance and crosses a large wetland complex.

The SWPL and Tule Jim Lane alternative segments were selected as the preferred route for the 138 kV transmission line. The SWPL corridor was chosen because the 138 kV transmission line would parallel an existing transmission line in a utility corridor already recognized by the BLM. Additionally, the SWPL corridor would not cross through residential or commercial development. The Tule Jim Lane corridor was chosen as the second half of the preferred alternative route because it parallels an existing SDG&E access road that could be used for the construction and operation of the 138 kV transmission line and would provide a relatively straight path to the Boulevard Substation. In addition, the Tule Jim Lane alternative would cross through approximately one mile less critical habitat for the QCB and 10 less parcels than the Old Highway 80 alternative.

5.2.7 Conclusion

The ECO Substation site and SWPL/Tule Jim Lane transmission line route were selected as preferred alternatives for several reasons. The proposed substation site is situated in close proximity to planned wind generation, as well as the region of high wind potential, and will

require shorter transmission lines from potential wind energy producers to the SWPL than all of the other alternative substation sites. This will result in fewer impacts to visual, biological, and cultural resources in the future. In addition, the proposed substation site is located near existing access roads and the SWPL, has the fewest residences within 0.5 mile, lacks sensitive biological and hydrological resources, and meets all of the Proposed Project objectives.

The preferred transmission route, comprised of the SWPL and Tule Jim Lane segments, will have the least impact to visual resources by following an existing transmission corridor, and avoiding population centers of the communities of Jacumba, Boulevard, and Bankhead Springs. This route parallels existing SDG&E access roads or other existing roads for the entire distance, thus reducing the need for new permanent access roads, which constitutes the majority of permanent impacts to biological resources during the installation of transmission lines.

Each alternative was studied in detail and SDG&E determined that the proposed preferred substation site and transmission line route best met all of the project objectives and simultaneously resulted in less-than-significant impacts to land use and other environmental resources. Construction of the Proposed Project as a whole will have no direct impact on wetlands, eligible cultural resources, or jurisdictional drainages. Impacts to QCB will be mitigated according to the Biological Opinion to be issued by the USFWS during consultation under Section 7 of the Federal Endangered Species Act. Lastly, the preferred alternatives for the Proposed Project offered the best suitability for meeting all of the planning, engineering, feasibility, and environmental criteria.

5.3 GROWTH-INDUCING IMPACTS

5.3.0 Growth-Inducing Impacts

The CEQA requires a lead agency to review and discuss ways in which a project could induce growth. The CEQA Guidelines (Section 15126.2d) considers a project to be growth-inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Other examples of growth-inducing projects are the expansion of urban services into previously undeveloped areas or the removal of major obstacles to growth, such as transportation corridors and potable water supply.

The growth-inducing potential of the Proposed Project could be considered significant if it were to stimulate human population growth or a population concentration of Jacumba, Boulevard, or surrounding rural communities above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the Proposed Project were to provide infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies. Because the Proposed Project will not increase housing, bring in new services, or improve the existing infrastructure system (with the exception of making the existing electric service more reliable), it will not stimulate population growth or result in a new concentration of residents, businesses, or industries.

5.3.1 Growth Caused by Direct and Indirect Employment

As described in Section 4.11 Population and Housing, the construction and operation of the Proposed Project itself will not affect employment patterns in the area. SDG&E will employ approximately 117 workers throughout the two-year construction period. The majority of construction workers is anticipated to come from San Diego County and will not require lodging. Contractors from outside of San Diego County may be mobilized to the job site for all or part of the construction phase of the Proposed Project and may stay at existing local hotels. A limited supply of hotels and other lodging facilities are within close proximity to the Proposed Project area and can be utilized by the out-of-town personnel. An adequate supply of local lodging exists within 45 minutes of the Proposed Project area.

Operation and maintenance of the Proposed Project will be performed by current SDG&E employees and will, therefore, not create new jobs. Because the Proposed Project will not result in an increase in employment during the operation and maintenance phase, the Proposed Project will not increase demand for new housing.

5.3.2 Growth Related to the Provision of Additional Electric Power

Regional Background

The population of San Diego County has increased every year since 1944. As a result, growth is part of the past, present, and expected future of the region. The San Diego Association of Governments (SANDAG) is the regional planning entity for the San Diego region and is composed of representatives from 18 cities and the county government, which serve as the forum for regional decision-making. SANDAG makes strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life.

The cities and county have designated SANDAG as the regional planning board, pursuant to a voter-approved proposition. The cities and county provide SANDAG with information about their general plans, local growth patterns, and land use regulations. In return, SANDAG generates regional management plans and population forecasts. As members of SANDAG, the cities and county review and approve all plans and forecasts prepared by SANDAG. The cities and county use SANDAG's findings to develop and shape their respective general plans and land use regulations. The county and each city are required to adopt a general plan, which must be updated on a regular basis. All general plans and subsequent amendments are subject to CEQA review.

SANDAG prepared a Regional Comprehensive Plan (RCP) in 2004 to provide policy guidance on accommodating the growth projected by SANDAG. A key element of the RCP is the Integrated Regional Infrastructure Strategy (IRIS) that outlines guidance for planning the region's infrastructure. The goal of the IRIS is to ensure internal consistency with respect to long-term regional infrastructure planning to meet the needs of the growth projected by SANDAG. The IRIS addresses the energy supply and delivery system as key infrastructure elements. As the primary utility that provides electric service to approximately 3.4 million customers in its service area, which includes all of San Diego County and the southern part of Orange County, SDG&E participates in and supports this aspect of the planning process. SANDAG has been preparing long-range forecasts of population, housing, and employment

since the 1970s. SANDAG's forecasts represent the changes anticipated for the region based on the best available information. The forecast is produced by using established computer models that evaluate land use, demographics, regional and local economics, and transportation patterns. The SANDAG forecasts utilize a complex set of assumptions, input data, computations, and model interactions.

The latest Regional Growth Forecast (RGF) was developed for 2030 and provides an update of expected growth from the previous model that was developed for 2020. The 2030 RGF is based on data from the 2000 census plus updated information for all model inputs. Like the 2020 RGF, the 2030 RGF predicts that local population will grow at an average rate of 32,000 people per year between 2005 and 2030. In addition, San Diego County employment and income will grow steadily throughout the next 20 years and beyond.

SANDAG does not use energy as a driver of growth; however, its regional growth model recognizes the investment in energy infrastructure as necessary to support the implementation of the RCP. SDG&E coordinates with SANDAG to address this component of its regional planning process. Only local government entities with jurisdiction over land use approvals can either directly cause or prevent growth. How and where development occurs within SDG&E's service area is dictated by the land use agencies with this authority.

Proposed Project and Growth

The objectives of the Proposed Project are to improve the reliability of the local and regional electric transmission system, provide access to renewable energy resources in southeastern San Diego County and Mexico, and maximize the use of existing ROWs. The Proposed Project will help ensure compliance with applicable transmission reliability standards and will diversify transmission supply alternatives by providing a 138 kV interconnection for the area. The improved access to renewable energy sources will also improve access to other competitively priced energy for the SDG&E service area.

The Proposed Project will accommodate existing and planned power demands in SDG&E's service territory, as well as those based on state- and locally adopted plans and projections. SDG&E responds to projected development and forecasts, rather than inducing growth by extending infrastructure for future unplanned development. Therefore, the Proposed Project will not induce population growth in the area.

5.3.3 References

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