E. COMPARISON OF ALTERNATIVES

This section presents a summary of the impact findings previously presented in the environmental analysis in Section D of this Environmental Impact Report/Environmental Impact Study (EIR/EIS) for the East County (ECO) Substation Project, the Tule Wind Project, and the Energia Sierra Juarez U.S. Generator-Tie (ESJ Gen-Tie) Project, collectively referred to as the Proposed PROJECT. The information is organized by alternative rather than by environmental resource category in order to facilitate an evaluation of the comparative merits of the "No Project/No Action" alternative, the Proposed PROJECT, and the four categories of alternatives evaluated in this EIR/EIS: (1) ECO Substation Project alternatives, (2) Tule Wind Project alternatives, (3) ESJ Gen-Tie alternatives, and (4) No Project/No Action alternatives. This section summarizes and compares the environmental advantages and disadvantages of these alternatives. This comparison is based on the assessment of environmental impacts as identified in Section D.

The Campo, Manzanita, and Jordan wind energy projects are evaluated under the No Project/No Action Alternative. Project-specific information has not been developed for these projects; therefore, providing a full evaluation of these wind energy projects and any alternatives developed in respect to these projects would be speculative. Once sufficient project-specific information has been developed, alternatives will be discussed in detail in further environmental review of these projects.

This section is organized as follows:

- Section E.1 describes the regulatory requirements for alternatives comparison.
- Section E.2 presents a comparison of the ECO Substation alternatives with the proposed ECO Substation Project to determine the environmentally superior ECO Substation Project Alternative.
- Section E.3 compares the Tule Wind Project alternatives with the proposed Tule Wind Project to determine the environmentally superior Tule Wind Project Alternative.
- Section E.4 compares the ESJ Gen-Tie alternatives with the proposed ESJ Gen-Tie Project to determine the environmentally superior ESJ Gen-Tie Project Alternative.
- Section E.5 defines the Overall Environmentally Superior Alternative for the Proposed PROJECT.

E.1 Regulatory Requirements for Alternatives Comparison

E.1.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that the alternatives analysis and comparison include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed. If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (14 CCR 15126.6(e)(2)).

E.1.2 National Environmental Policy Act

Under NEPA, an EIS must devote "substantial treatment" to each alternative considered in detail, including the proposed action, so that reviewers may evaluate the comparative merits (40 C.F.R. 1502.14(b)). The Council on Environmental Quality regulations at 40 CFR 1502.14(e) direct that an EIS "identify the agency's preferred alternative or alternatives, if one exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference." The preferred alternative may be identified in an explanatory cover letter to the draft EIS or within the text. The final EIS must identify the preferred alternative unless another law prohibits expression of such a preference. Publication of an EIS without identifying the preferred alternative must be approved by the Office of Environmental Policy and Compliance and the Office of the Solicitor (516 DM 4.10(b)(3)).

The identification of a preferred alternative does not constitute a commitment or decision principle, and there is no requirement to select the preferred alternative in the record of decision. The identification of the preferred alternative may change between a draft EIS and final EIS. Various parts of separate alternatives that are analyzed in the draft can also be "mixed and matched" to develop a complete alternative in the final EIS as long as the reasons for doing so are explained. Selection in the record of decision of an alternative other than the preferred alternative does not require preparation of a supplemental EIS if the selected alternative was analyzed in the EIS.

E.2 Comparison of the Proposed ECO Substation Project and Alternatives

Four alternatives to the ECO Substation Project, in addition to the No Project/No Action Alternative, were identified for evaluation in this EIR/EIS. A detailed analysis of environmental

impacts and mitigation for all project alternatives is provided in Sections D.2 through D.18. A comparison of the environmental effects for the proposed ECO Substation and each of the alternatives is provided in Table E-1. The California Public Utilities Commission (CPUC) has the sole responsibility in making a decision on the proposed ECO Substation Project including which, if any, of the four alternatives or variations and/or combination of those alternatives evaluated in this EIR/EIS should be adopted, with the exception of a 1.5-mile portion of the proposed 138-kilovolt (kV) transmission line between milepost (MP) 0.1 to 1.6 for which the BLM has sole responsibility.

The proposed ECO Substation Project would have adverse and unmitigable impacts under NEPA (significant Class I unmitigable impacts under CEQA) in the following issue areas: biological resources (direct loss of Quino checkerspot butterfly (QCB) habitat), visual resources (scenic resources and visual character), cultural resources (potential adverse change to a traditional cultural property), short-term construction noise, air emissions (NOx and PM_{10} emissions), and fire and fuels management (see Table E-1). See Section D.1.2.2 in Section D.1, Introduction to Environmental Analysis, for a definition of significance criteria under CEQA and a comparison of CEQA and NEPA criteria and terminology. Impacts in the remaining 11 issue areas were either found to be not adverse under NEPA and under CEQA less than significant (Class III); and/or following implementation of mitigation measures presented in this EIR/EIS to be mitigable in that adverse impacts were avoided or minimized (40 CFR 1500.2(f)) and under CEQA less than significant with mitigation implemented (Class II).

E.2.1 ECO Substation Site Alternative

Under this alternative, the ECO Substation site would be shifted 700 feet to the east and compared with the proposed ECO Substation Project would be located farther away from the nearest residences. This alternative would change the configuration of the SWPL Loop-In and extend the 138 kV transmission line to a total length of 13.4 miles. Under this alternative, the access road to the ECO Substation would go along the west and southern side of the substation site, rather than along the north, and the northwest corner of the western ECO Substation pad would be removed to reduce permanent impacts to waters of the U.S. Furthermore, the location of steel poles 76, 77, 91, 99, 102, 104, and 105 along the 138 kV transmission line would be shifted to avoid impacts to cultural resources. Other changes include one additional staging area, three additional pole sites, minor additions in new access roads, and permanent maintenance pads, as well as one retention pond instead of two. All other project components would be the same. This alternative would reduce adverse but mitigable impacts under NEPA, and under CEQA, (Class II) significant impacts to prehistoric archaeological resources would be reduced to less than significant (Class III) through site avoidance and would impact fewer drainages. As summarized in Table E-1, impacts to all other issue areas would be similar to the proposed ECO Substation Project, each of the ECO Substation Project Alternatives, and the Proposed PROJECT.

Table E-1
Comparison of Impacts for the Proposed ECO Substation Project and Alternatives

Proposed ECO Substation Project	ECO Substation Site Alternative	ECO Partial Underground 138 kV Transmission Route	ECO Highway 80 138 kV Transmission Route	ECO Highway 80 Underground 138 kV Transmission Route
Biological Resources **(see Section D.2 for full analysis)**				
Adverse and unmitigable impacts (Class I) would occur to QCB critical habitat. Other adverse mitigable impacts (Class II) would occur for other sensitive species/habitat.	Adverse and unmitigable impacts (Class I) would be nearly identical to the Proposed Project	Adverse and unmitigable impacts (Class I) would remain significant and would be greater than the Proposed Project due to increased ground disturbance during construction.	Adverse and unmitigable impacts (Class I) would remain significant and would be greater than the Proposed Project due to an increase in sensitive riparian habitat as well as QCB habitat.	Adverse and unmitigable impacts (Class I) would remain significant and would be greater than the Proposed Project due to increased ground disturbance during construction and an increase in sensitive riparian habitat and QCB habitat.
Visual Resources **(see Section D.3 for full analysis)**				
Adverse and unmitigable impacts (Class I) would occur as the project would have adverse impacts on scenic vistas and substantially degrade existing visual character.	Adverse and unmitigable impacts (Class I) would be nearly identical to the Proposed Project.	Adverse and unmitigable impacts (Class I) would occur. Although undergrounding a portion of the transmission line would reduce and avoid some of the visual impacts, the overall impact levels would be similar to those identified for the Proposed Project.	Adverse and unmitigable impacts (Class I) would be greater than the Proposed Project due to installation of a new transmission line along a more visible corridor (more residences in the area and along a highway).	Adverse and unmitigable impacts (Class I) would occur. Although undergrounding a portion of the transmission line would reduce and avoid some of the visual impacts, the overall impact levels would be similar to those identified for the Proposed Project.
Land Use **(see Section D.4 for full analysis)**				
Short- and long-term land use impacts associated with the project would generally be adverse mitigable impacts (Class II). The project would be consistent with all applicable federal land use plans, and because the County has no land use jurisdiction over the project, local plans are not applicable	Impacts would be nearly identical to those of the Proposed Project.	Impacts would be nearly identical to those of the Proposed Project, temporary impacts would be slightly greater, and long-term impacts where the transmission line is undergrounded would be less.	Impacts would be nearly identical to those of the Proposed Project, temporary impacts and some long-term impacts would be slightly greater due to a greater number of residences along the alternate 4.8-mile route.	Impacts would be nearly identical to those of the Proposed Project, temporary impacts would be slightly greater, and long-term impacts where the transmission line is undergrounded would be less.

Table E-1 (Continued)

Proposed ECO Substation Project	ECO Substation Site Alternative	ECO Partial Underground 138 kV Transmission Route	ECO Highway 80 138 kV Transmission Route	ECO Highway 80 Underground 138 kV Transmission Route
and impacts would not be adverse (Class III).				
Wilderness and Recreation **(see Section D.5 for full analysis)**				
Project would not directly impact wilderness or recreation areas. Temporary impacts to access to recreation and wilderness areas would be adverse but mitigable (Class II).	Impacts would be nearly identical to those of the Proposed Project.	Adverse mitigable impacts (Class II) would be slightly greater than those of the Proposed Project, but would also be mitigable.	Impacts would not be adverse (Class III) as under this alternative the project would not interfere with access to a wilderness or recreation area.	Impacts would not be adverse (Class III) as under this alternative the project would not interfere with access to a wilderness or recreation area.
Agricultural Resources **(see Section D.6 for full analysis)**				
Impacts would not be adverse (Class III), due to small impacts at Ketchum Ranch	Impacts would not be adverse (Class III); impacts would be identical to those of the Proposed Project.	Impacts would not be adverse (Class III); impacts would be identical to those of the Proposed Project.	Impacts would not be adverse (Class III); impacts would be less than those of the Proposed Project.	Impacts would not be adverse (Class III); impacts would be less than those of the Proposed Project.
Cultural and Paleontological Resources **(see Section D.7 for full analysis)**				
Adverse and unmitigable impacts (Class I) may occur to Traditional Cultural Property (TCP). Adverse and mitigable impacts (Class II) would occur to archaeological resources.	This alternative avoids a significant prehistoric archaeological site. Therefore, impacts would be reduced, but overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP	Impacts to cultural resources would increase under this alternative due to open trenching along the undergrounded route. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.	Impacts would be similar to the Proposed Project and would remain adverse and unmitigable (Class I).	Impacts to cultural resources would increase under this alternative due to open trenching along the undergrounded route. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.
Noise **(see Section D.8 for full analysis)**				
Adverse and unmitigable noise impacts (Class I) would occur temporarily due to construction related nighttime noise, helicopters and blasting. Other noise impacts	Impacts would be similar to but less than those of the Proposed Project due to an increased distance to residences. Adverse and unmitigable noise impacts	Construction-related adverse impacts would be similar to the Proposed Project, and would remain adverse and unmitigable (Class I). Operations noise impacts would be reduced where the transmission line is	Construction-related adverse impacts would be similar to the Proposed Project, and would remain adverse and unmitigable (Class I). Operations noise impacts would be similar to the	Construction-related adverse impacts would be similar to the Proposed Project and would remain adverse and unmitigable (Class I). Operations noise impacts would be reduced where the transmission line

Table E-1 (Continued)

Proposed ECO Substation Project	ECO Substation Site Alternative	ECO Partial Underground 138 kV Transmission Route	ECO Highway 80 138 kV Transmission Route	ECO Highway 80 Underground 138 kV Transmission Route
would be adverse and mitigable (Class II) and/or not adverse (Class III).	(Class I) would occur temporarily due to construction related nighttime noise, helicopters and blasting.	undergrounded, but would remain adverse and mitigable (Class II).	Proposed Project and would remain adverse and mitigable (Class II).	is undergrounded, but would remain adverse and mitigable (Class II).
Transportation and Traffic **(see Section D.9 for full analysis)**				
Short-term construction activities would cause adverse mitigable impacts (Class II) to traffic and roadways.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.
Public Health and Safety **(see Section D.10 for full analysis)**				
Hazardous materials encountered during construction and electromagnetic interference during operations would result in adverse mitigable impacts Class II impacts.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project due to trenching for underground installation, but would remain less than significant with mitigation.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project due to trenching for underground installation, but would remain less than significant with mitigation.
Air Quality **(see Section D.11 for full analysis)**				
Short-term construction related NO_x and PM_{10} air emissions would remain adverse with mitigation (Class I), other short-term air quality impacts would be Adverse mitigable impacts (Class II) and long-term impacts would not be adverse (Class III).	Impacts would be similar to the Proposed Project and would include adverse and unmitigable impacts (Class I).	Significant and unmitigable impacts (Class I). Due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project and would include adverse and unmitigable impacts (Class I).	Significant and unmitigable impacts (Class I). Due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.

Table E-1 (Continued)

Proposed ECO Substation Project	ECO Substation Site Alternative	ECO Partial Underground 138 kV Transmission Route	ECO Highway 80 138 kV Transmission Route	ECO Highway 80 Underground 138 kV Transmission Route
Water Resources **(see Section D.12 for full analysis)**				
Short-term construction activities would degrade water resources and impact water supply, resulting in adverse but mitigable impacts (Class II).	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project, but remain less than significant with mitigation.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project, but remain less than significant with mitigation.
Geology, Mineral Resources, and Soils **(see Section D.13 for full analysis)**				
Short-term construction activities would cause erosion, and project facilities would be located in seismically active areas with liquefaction risk resulting in adverse mitigable impacts (Class II).	Adverse mitigable impacts (Class II) would be almost identical to those of the Proposed Project.	Adverse mitigable impacts (Class II) would be temporary and greater than those of the Proposed Project, but would be mitigable. Permanent impacts would be less than the Proposed Project where the transmission line would be placed underground but would remain adverse with mitigation.	Adverse mitigable impacts (Class II) would be similar to those of the Proposed Project.	Adverse mitigable impacts (Class II) would be temporary and greater than those of the Proposed Project, but with mitigation, remain less than significant. Permanent impacts would be less than the Proposed Project where the transmission line would be placed underground but would remain adverse with mitigation.
Public Services and Utilities **(see Section D.14 for full analysis)**				
Adverse mitigable impacts (Class II) during construction would disrupt existing utilities and require substantial amounts of water.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.
Fire and Fuels Management **(see Section D.15 for full analysis)**				
Adverse and unmitigable impacts (Class I) would occur as with partial mitigation, certain risks remain. The possibility that a transmission line fault would	Adverse and unmitigable impacts (Class I) would be similar to the Proposed Project.	Adverse and unmitigable impacts (Class I) would be less than the Proposed Project, but would remain adverse.	Adverse and unmitigable impacts (Class I)-would be similar to the Proposed Project.	Adverse and unmitigable impacts (Class I) would be less than the Proposed Project, but would remain adverse.

Table E-1 (Continued)

Proposed ECO Substation Project	ECO Substation Site Alternative	ECO Partial Underground 138 kV Transmission Route	ECO Highway 80 138 kV Transmission Route	ECO Highway 80 Underground 138 kV Transmission Route
start a fire remains. Transmission lines also reduce firefighter effectiveness. Therefore impacts are considered adverse and unmitigable.				
***Social and Economic Conditions* (see Section D.16 for full analysis)**				
No adverse impacts (Class III) and beneficial impacts would occur. The project would not displace people or housing, and would stimulate the local economy.	No adverse impacts (Class III) and beneficial impacts would occur as impacts would be similar to the Proposed Project.	No adverse impacts (Class III) and beneficial impacts would occur as impacts would be similar to the Proposed Project.	No adverse impacts (Class III) and beneficial impacts would occur as impacts would be similar to the Proposed Project	No adverse impacts (Class III) and beneficial impacts would occur as impacts would be similar to the Proposed Project.
***Environmental Justice* (see Section D.17 for full analysis)**				
Construction and operation of the project would not result in disproportionately high or adverse effects on minority or low-income populations.	Construction and operation of the project would not result in disproportionately high or adverse effects on minority or low-income populations.	Construction and operation of the project would not result in disproportionately high or adverse effects on minority or low-income populations.	Construction and operation of the project would not result in disproportionately high or adverse effects on minority or low-income populations.	Construction and operation of the project would not result in disproportionately high or adverse effects on minority or low-income populations.
***Climate Change* (see Section D.18 for full analysis)**				
No adverse impacts (Class III) and beneficial impacts (Class IV) would occur as the project would assist the State in achieving its renewable energy goals.	No adverse impacts (Class III) and beneficial impacts (Class IV) impacts would occur and would be similar to the Proposed Project.	No adverse impacts (Class III) and beneficial impacts (Class IV) impacts would occur and would be similar to the Proposed Project.	No adverse impacts (Class III) and beneficial impacts (Class IV) impacts would occur and would be similar to the Proposed Project.	No adverse impacts (Class III) and beneficial impacts (Class IV) impacts would occur and would be similar to the Proposed Project.

E.2.2 ECO Partial Underground 138 kV Transmission Route Alternative

Under this alternative, approximately 4 miles of the proposed 138 kV Transmission Line between the milepost 9 and the rebuilt Boulevard Substation would be installed underground in existing roadways, where possible, rather than overhead. In addition, between MP 0.3 and MP 2.4, the proposed 138 kV Transmission Line would be rerouted and installed underground for approximately 2.7 miles along Old Highway 80 and Carrizo Gorge Road and would then rejoin the proposed 138 kV Transmission Line. All other project components would be the same. This alternative would increase the short-term construction impacts associated with trenching and boring activities. Short-term construction impacts from air emissions (NOx and PM_{10}) and noise would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with mitigation (Class II) under CEQA. This alternative would reduce some of the unmitigable fire and visual impacts associated with the undergrounding of two segments ~~an approximate 4-mile portion~~ of the proposed 138 kV transmission line to not adverse under NEPA and ~~be~~ less than significant (Class III) under CEQA. As summarized in Table E-1, impacts to all other issue areas would be similar to the proposed ECO Substation Project, each of the other ECO Substation Project Alternatives, and the Proposed PROJECT.

E.2.3 ECO Highway 80 138 kV Transmission Route Alternative

Under this alternative, approximately 4.8 miles of the proposed 138 kV Transmission Line between the SWPL and Boulevard Substation would be installed by generally utilizing an existing utility right-of-way (ROW) and overbuild an existing distribution line along Old Highway 80. Under this alternative, the proposed 138 kV transmission route would be 10.6 miles in length compared to 13.3 miles as proposed. All other project components would be the same. While this alternative would reduce the overall length of the proposed 138 kV transmission line, it would increase the short-term construction impacts and long-term visual impacts when compared to the Proposed 138 kV transmission line due to its proximity along a more visible corridor (Old Highway 80) and greater number of affected residences. Short-term impacts to biological resources would also increase due to greater impacts to designated QCB habitat as well as riparian habitat. As summarized in Table E-1 impacts to all other issue areas would be similar to the proposed ECO Substation Project, each of the other ECO Substation Project Alternatives, and the Proposed PROJECT.

E.2.4 ECO Highway 80 Underground 138 kV Transmission Route Alternative

Under this alternative, approximately 4.8 miles of the proposed 138 kV Transmission Line between the SWPL and Boulevard Substation would be installed underground generally within

an existing utility ROW along Old Highway 80. Under this alternative the proposed 138 kV transmission route would be 10.6 miles in length compared to 13.3 miles as proposed. All other project components would be the same. While this alternative would reduce the overall length of the proposed 138 kV transmission line, preliminary slope analysis indicates that the route contains grades in excess of the maximum allowable 12% slope for undergrounding transmission lines. At these locations, additional ROW, HDD or overhead structures would be required. Additional construction requirements would substantially increase the short-term construction impacts associated with trenching and boring activities to noise, air emissions, surface water and erosion. Public utilities disruptions would also increase due to the numerous utility connections along the alignment. Short-term construction impacts from dust and air emissions and noise would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with mitigation (Class II) under CEQA. While this alternative would reduce the unmitigable fire, and visual impacts associated with an approximate 4.8-mile portion of the proposed 138 kV transmission line, long-term fire, and visual impacts would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. Short-term impacts to biological resources would increase due to greater impacts to designated QCB habitat as well as riparian habitat. As summarized in Table E-1, impacts to all other issue areas would be similar to the proposed ECO Substation Project, each of the other ECO Substation Project Alternatives, and the Proposed PROJECT.

E.2.5 Overall Ranking ECO Substation Site Alternatives

The conclusions in Sections E.2.1 through E.2.4 for the ECO Substation Project Alternatives result in the overall environmentally superior alternative as the ECO Substation Site Alternative combined with Partial Underground of the proposed 138 kV Transmission Line. Consideration and adoption of this alternative and/or consideration of other combination of alternatives to the ECO Substation Project would be at the discretion of the CPUC and BLM.

Similar to the proposed ECO Substation Project and other ECO Substation Project Alternatives considered, this alternative would have unavoidable adverse impacts under NEPA and significant and unmitigable Class I impacts under CEQA in the following issue areas: biological resources, cultural resources (potential impacts to traditional cultural properties), visual resources, short-term construction noise and air emissions, and fire and fuels management. Impacts in the remaining 11 issue areas were found to be not adverse under NEPA, and under CEQA, less than significant (Class III); and/or following mitigation presented in this EIR/EIS, would be adverse but mitigable under NEPA, ~~to be mitigated~~ and under CEQA less than significant following implementation of mitigation measures (Class II).

While this alternative would increase short-term construction related impacts to air, noise, water, erosion, and biological resources, short-term impacts to these resources would occur within the same area as the proposed ECO Substation Project and would be mitigable in that adverse impacts were avoided or minimized under NEPA, and under CEQA can be mitigated to less than significant (Class II). This alternative would reduce impacts to cultural resources through avoidance and would reduce long-term ~~land use,~~ visual and fire impacts associated with ~~an approximate 4-mile portion~~ undergrounding two segments of the proposed 138 kV transmission line project component, an approximate 4-mile portion between MP 9 and the Boulevard Substation as well as an approximate 2.7-mile portion along Old Highway 80 and Carrizo Gorge Road, from unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA, to not adverse under NEPA and less than significant (Class III) under CEQA.

While the two 138 kV transmission line alternatives generally utilizing an existing utility ROW along Old Highway 80 would reduce the overall length of the proposed 138 kV transmission line from 13.3 miles as proposed to 10.6 miles and would potentially reduce some of the proposed ECO Substation Project impacts as described previously, they would also create more substantial impacts due to the proximity to Old Highway 80, a greater number of sensitive residences, additional critical habitat for the QCB and siting/slope constraints requiring additional construction impacts when compared to the proposed ECO Substation Project and therefore were not determined to be environmentally superior.

Comparison to the No Project Alternative 2 – No ECO Substation Project

Under the No Project Alternative 2, the ECO Substation Project would not be built, and the conditions in the existing energy grid and local environment would remain. Without the ECO Substation Project, there would not be an interconnection hub that would enable renewable generation such as the ESJ Gen-Tie or Tule Wind projects to connect to the grid. Additionally, energy transmission would remain unreliable in the Boulevard, Jacumba, and surrounding communities. Planned generation facilities in the project area 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. Development of these facilities under the No ECO Substation Project Alternative (No Project Alternative 2) may actually increase impacts when compared to the ECO Substation Project, and therefore it was determined not to be environmentally superior.

E.3 Comparison of Alternatives to the Tule Wind Project

Five alternatives to the Tule Wind Project in addition to the No Project/No Action Alternative were identified for evaluation in this EIR/EIS. A detailed analysis of environmental impacts and

mitigation for all project alternatives is provided in Sections D.2 through D.18. A comparison of the environmental effects for the proposed Tule Wind Project and each of the alternatives is provided in Table E-2. As summarized in Sections E.3.1 through E.3.5, the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, CSLC, and County of San Diego have responsibility in making a decision on the proposed Tule Wind Project, including which, if any, of the five alternatives or variations and/or combination of those alternatives evaluated in this EIR/EIS should be adopted.

The proposed Tule Wind Project would have unavoidable adverse impacts under NEPA and significant Class I unmitigable impacts under CEQA in the following issue areas: biological resources (bird/golden eagle strikes with turbines), visual resources (visual characteristics), ~~wildland fire and fuels management,~~ cultural resources (potential adverse change to traditional cultural properties), and short-term construction noise and air emissions (see Table E-2). Impacts in the remaining ~~11~~ 12 issue areas were either found to be not adverse under NEPA, and under CEQA, less than significant (Class III), and/or following implementation of mitigation measures presented in this EIR/EIS to be mitigable in that adverse impacts were avoided or minimized (40 CFR 1500.2(f)) and under CEQA less than significant with mitigation implemented (Class II).

E.3.1 Tule Alternative 1 Gen-Tie Route 2 with Collector Substation/Operations and Maintenance (O&M) Facility on Rough Acres Ranch

Under this alternative, the proposed Tule Wind Project would consist of 128 turbines and the O&M facility, ~~and~~ collector substation, and temporary concrete batch plant would be relocated to Rough Acres Ranch (private land under the jurisdiction and permitting approval of San Diego County). Also, the proposed overhead collector line located west of Lost Valley Rock would be relocated to east of Lost Valley Rock and constructed within the proposed Tule Wind Project 138 kV alignment that would be vacated as a result of the O&M facility and collector substation location shift. This alternative would also reroute the 138 kV transmission line to run from the relocated collector substation partially along McCain Valley Road to the rebuilt Boulevard Substation also under the jurisdiction and permitting approval of San Diego County. All other project components would be the same and would require approval from the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, and CSLC. The proposed 138 kV transmission line would decrease in distance by 5.4 miles as a result of this alternative from 9.~~7~~ 2 miles to 3.8 miles and would decrease the amount of transmission line poles by 36 poles from ~~116~~ 80 poles to 44 poles. ~~The~~ However, as a result of this alternative, the 34.5 kV overhead collector lines would substantially increase in distance by 7.7 miles from 9.~~4~~ 3 miles to 17 miles, and would increase the amount of collector line poles by 202 from 250 to 452 poles. The underground collector lines would decrease in distance from ~~29.3~~35.1 miles to 28.9 miles. Under this alternative, short-term construction impacts to air and noise would remain unavoidable adverse under NEPA and

significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with implementation of mitigation measures (Class II) under CEQA. The impact to vegetation communities from the Tule Gen-Tie Alternative 2 would ~~increase~~ decrease by ~~8~~ 17.4 acres (2~~1~~%) ~~more than~~from the proposed Tule Wind Project. ~~Although t~~The Gen-Tie Alternative 2 would result in a ~~slight increase~~decrease in impacts to vegetation communities and a reduced ~~, this alternative would substantially reduce the~~ distance of the larger 138 kV transmission line, which would reduce potential avian collision and electrocution risk associated with the larger lines. This alternative would also relocate the substation to an area of existing development on Rough Acres Ranch, which would reduce the construction and operations related disturbance to wildlife and cultural resources associated with the substation. Additionally, this alternative would minimize scenic vista and visual contrast impacts associated with the collector substation/O&M facility and transmission line. Moving the collector station/O&M facility, temporary concrete batch plant, and transmission line off BLM land would tend to reduce overall construction operations activity in the McCain ~~National Co-op Land~~Valley area, which would reduce impacts to recreational activities occurring there. As summarized in Table E-2, impacts to all other issue areas would be similar to the proposed Tule Wind Project, each of the Tule Wind Project Alternatives, and the Proposed PROJECT.

E.3.2 Tule Alternative 2 Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Under this alternative, the proposed Tule Wind project would consist of 128 turbines and the O&M facility, ~~and~~ collector substation, and temporary concrete batch plant would be relocated to Rough Acres Ranch (private land under the jurisdiction and permitting approval of San Diego County). This alternative would also reroute the 138 kV transmission line underground from the relocated collector substation partially along McCain Valley Road to the Boulevard Substation. In addition, the proposed overhead collector line located west of Lost Valley Rock would be relocated to east of Lost Valley Rock and constructed within the proposed Tule Wind Project 138 kV alignment that would be vacated as a result of the O&M facility and collector substation location shift. All other project components would be the same and would require approval from the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, and CSLC. This alternative would have similar impacts to those described previously in Section E.3.1. Additionally, this alternative would increase the short-term construction impacts associated with trenching and boring activities. Short-term construction impacts from dust and air emissions would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with mitigation (Class II) under CEQA. While long-term ~~fire and~~ visual impacts and conflicts with County of ~~the~~ San Diego policies related ~~to rural character, wildland~~

~~and visual resources~~degradation of existing visual character would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA, this alternative would reduce some of the unmitigable ~~fire and~~ visual impacts associated with the proposed 138 kV transmission line to not adverse under NEPA and less than significant (Class III) under CEQA. Since this alternative would relocate the substation to an area of existing development on Rough Acres Ranch, construction and operations related disturbance to wildlife and cultural resources due to the substation would be reduced. As summarized in Table E-2, impacts to all other issue areas would be similar to the proposed Tule Wind Project, each of the Tule Wind Project Alternatives, and the Proposed PROJECT.

E.3.3 Tule Alternative 3 Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch

Under this alternative, the proposed Tule Wind Project would consist of 128 turbines O&M facility, ~~and~~ collector substation, and temporary concrete batch plant would be relocated to Rough Acres Ranch (private land under the jurisdiction and permitting approval of San Diego County). This alternative would also reroute the 138 kV transmission line from the relocated collector substation partially using Ribbonwood Road to the Boulevard Substation, also under the jurisdiction and permitting approval of San Diego County. In addition, the proposed overhead collector line located west of Lost Valley Rock would be relocated to east of Lost Valley Rock and constructed within the proposed Tule Wind Project 138 kV alignment that would be vacated as a result of the O&M facility and collector substation location shift. All other project components would be the same and would require approval from the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, and CSLC. This alternative would reduce the overall length of the proposed 138 kV transmission line by 3.8 miles from ~~9.6~~9.2 to 5.4 miles, increase the distance of the overhead collector line system by 7.7 miles, from 9.3 miles (proposed) to 17 miles, and develop the O&M and collector substation on a more disturbed site. This alternative would have similar and slightly greater impacts to those described in Section E.3.1 due to the increased length of the 138 kV transmission line. Short-term construction impacts to air and noise would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigated under NEPA and less than significant with implementation of mitigation measures (Class II) under CEQA. Since this alternative would relocate the substation to an area of existing development on Rough Acres Ranch, construction and operations related disturbance to wildlife and cultural resources due to the substation would be reduced. As summarized in Table E-2, impacts to all other issue areas would be similar to the proposed Tule Wind Project, each of the Tule Wind Project Alternatives, and the Proposed PROJECT.

Table E-2
Comparison of Impacts for the Proposed Tule Wind Project and Alternatives

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
***Biological Resources* (see Section D2 for full analysis)**					
Adverse and unmitigable impacts (Class I) would be caused by wind turbines to birds, such as golden eagles. Impacts to other sensitive species and habitats would be adverse but mitigable (Class II).	Adverse and unmitigable impacts (Class I) would be similar. Adverse mitigable impacts (Class II) to vegetation and habitat would be slightly greater. Adverse mitigable impacts (Class II) due to electrocution would be slightly reduced due to a reduction in overhead lines.	Adverse and unmitigable impacts (Class I) would be similar. Adverse mitigable impacts (Class II) to vegetation and habitat would be slightly greater. Adverse mitigable impacts (Class II) due to electrocution would be slightly reduced due to a reduction in overhead lines.	Adverse and unmitigable impacts (Class I) would be similar. Adverse mitigable impacts (Class II) to vegetation and habitat would be slightly greater. Adverse mitigable impacts (Class II) due to electrocution would be slightly reduced due to a reduction in overhead lines.	Adverse and unmitigable impacts (Class I) would be similar. Adverse mitigable impacts (Class II) to vegetation and habitat would be slightly greater. Adverse mitigable impacts (Class II) due to electrocution would be slightly reduced due to a reduction in overhead lines.	Adverse and unmitigable impacts (Class I) to special-status bird species would be substantially reduced by removing 63 turbines under this alternative that are in areas of high risk of collision for golden eagles based on topography, landforms, and distance to known active nests). However adverse and unmitigable impacts (Class I) to golden eagles would remain due to the risk of mortality from collision with the remaining operating turbines. Adverse mitigable impacts (Class II) to vegetation and habitat would be slightly reduced. Adverse mitigable impacts (Class II) due to electrocution would be the same as the Proposed Project.

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
***Visual Resources* (see Section D.3 for full analysis)**					
Adverse and unmitigable impacts (Class I) would occur as the project would have adverse impacts on scenic vistas, would substantially degrade existing visual character, would create a substantial new source of light, and would temporarily cause inconsistency with visual impact regulations due to construction. ,	Adverse and unmitigable impacts (Class I) would be nearly identical to the Proposed Project.	Adverse and unmitigable impacts (Class I) would occur, although undergrounding a portion of the transmission line would reduce and avoid some of the visual impacts, the overall impact would remain adverse and unmitigable (Class I).	Adverse and unmitigable impacts (Class I) would be nearly identical to the Proposed Project.	Adverse and unmitigable impacts (Class I) would occur, although undergrounding a portion of the transmission line would reduce and avoid some of the visual impacts, the overall impact would remain adverse and unmitigable (Class I).	Adverse and unmitigable impacts (Class I) would be reduced as turbines would be removed from highest ridgelines; however turbines would remain on elevated ridgelines in the project area.
***Land Use* (see Section D.4 for full analysis)**					
Short-term construction and long-term land use impacts would be adverse but mitigable (Class II). The project would be consistent with all applicable federal and Ewiiaapaayp Band land use plans. A portion of the project on County lands would not be consistent with all applicable County plans and policies pertaining to maintenance of rural character;	Impacts would be similar to the Proposed Project.	Impacts would be reduced but would remain similar to the Proposed Project.	Impacts would be similar to the Proposed Project and would remain similar to the Proposed Project.	Impacts would be reduced but would remain similar to the Proposed Project.	Impacts would be similar to the Proposed Project.

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
however,; with implementation of mitigation measures provided under land use and visual resources (and with the granting of the Major Use Permits required for wind turbines and the 138 kV transmission line), this impact is considered to be adverse and mitigable Class II).					
Wilderness and Recreation **(see Section D.5 for full analysis)**					
Mitigable adverse impacts (Class II) would occur as the project would directly impact recreation areas, and would not directly impact wilderness areas. Project components would impact inventoried lands with wilderness characteristics; however, portions of the project site not directly impacted by project components would retain wilderness characteristics.	Mitigable adverse impacts (Class II) would be slightly less than the Proposed Project, due to alternate Rough Acres Ranch site. Similar affects to lands with wilderness characteristics as the Proposed Project.	Mitigable adverse impacts (Class II) would be slightly less than the Proposed Project, due to alternate Rough Acres Ranch site. Similar affects to lands with wilderness characteristics as the Proposed Project.	Mitigable adverse impacts (Class II) would be slightly less than the Proposed Project, due to alternate Rough Acres Ranch site. Similar affects to lands with wilderness characteristics as the Proposed Project.	Mitigable adverse impacts (Class II) would be slightly less than the Proposed Project, due to alternate Rough Acres Ranch site. Similar affects to lands with wilderness characteristics as the Proposed Project.	Mitigable adverse impacts (Class II) would be less than the Proposed Project, due to fewer turbines and bigger buffer adjacent to the wilderness areas in the northwest. Affects to lands with wilderness characteristics would be reduced compared to the Proposed Project due to fewer turbines.

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
***Agricultural Resources* (see Section D.6 for full analysis)**					
Adverse impacts would not occur (Class III) as the project would not directly impact agricultural area, and would place a utility, an allowable use, in areas zoned for agriculture	Adverse impacts would not occur (Class III). Impacts would be greater than those of the Proposed Project, but remain not adverse	Adverse impacts would not occur (Class III). Impacts would be greater than those of the Proposed Project, but remain not adverse	Adverse impacts would not occur (Class III). Impacts would be greater than those of the Proposed Project, but remain not adverse	Adverse impacts would not occur (Class III). Impacts would be greater than those of the Proposed Project, but remain not adverse	Adverse impacts would not occur (Class III). Impacts would be identical to those of the Proposed Project.
***Cultural and Paleontological Resources* (see Section D.7 for full analysis)**					
Adverse and unmitigable impacts (Class I) may occur to Traditional Cultural Property (TCP).	Impacts would be reduced due to the O&M/substation facility being located in a more disturbed area. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.	Impacts would be reduced due to the O&M/substation facility being located in a more disturbed area, but would increase where trenching would occur. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.	Impacts would be reduced due to the O&M/substation facility being located in a more disturbed area. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.	Impacts would be reduced due to the O&M/substation facility being located in a more disturbed area, but would increase where trenching would occur. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.	Impacts would be reduced with fewer turbine locations due to less ground disturbance. Overall impacts would remain adverse and unmitigable (Class I) due to potential impacts to TCP.
***Noise* (see Section D.8 for full analysis)**					
Adverse and unmitigable noise and vibration impacts (Class I) would temporarily occur from construction-related blasting and drilling activities, Operations noise would be adverse and mitigable (Class II).	Impacts would be similar to the Proposed Project and would remain adverse with mitigation (Class I).	Adverse and unmitigable impacts (Class I) would be greater than the Proposed Project due to trenching activities along the underground portion of the transmission line.	Adverse and unmitigable impacts (Class I) would occur during construction that would be greater than the Proposed Project due to an increase in sensitive receptors along the alternate route, and would remain adverse with mitigation.	Adverse and unmitigable impacts (Class I) would occur during construction that would be greater than the proposed project and other Alternatives due to an increase in sensitive receptors along the alternate route and open	Impacts would be similar to the Proposed Project and would remain adverse with mitigation (Class I).

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
				trenching, and would remain adverse with mitigation.	
Transportation and Traffic **(see Section D.9 for full analysis)**					
Short-term construction activities would cause adverse but mitigable impacts (Class II) to traffic and roadways.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.
Public Health and Safety **(see Section D.10 for full analysis)**					
Hazardous materials encountered during construction and electromagnetic interference during operations would result in mitigable adverse impacts (Class II).	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project and aboveground alternatives due to trenching for underground installation, but would remain less than significant.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than the Proposed Project and aboveground Alternatives due to trenching for underground installation, but would remain less than significant.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.
Air Quality **(see Section D.11 for full analysis)**					
Short-term construction-related VOC, NOx, PM_{10}, and $PM_{2.5}$ air emissions would remain adverse with mitigation (Class I); other short-term air quality impacts would be mitigable adverse impacts (Class II), and long-term impacts would not be	Adverse and unmitigable impacts (Class I) would be similar to the Proposed Project.	Significant and unmitigable impacts (Class I) would occur. Due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts	Adverse and unmitigable impacts (Class I) would be similar to the Proposed Project.	Significant and unmitigable impacts (Class I) would occur. Due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts	Adverse and unmitigable impacts (Class I) would be slightly less than the Proposed Project.

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
adverse (Class III).		related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.		related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.	
***Water Resources* (see Section D.12 for full analysis)**					
Short-term construction activities would degrade water resources and impact water supply, resulting in adverse but mitigable impacts (Class II).	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than to the Proposed Project, but would remain less than significant with mitigation.	Adverse mitigable impacts (Class II) would be similar to the Proposed Project.	Adverse mitigable impacts (Class II) would be greater than to the Proposed Project, but would remain less than significant with mitigation.	Adverse mitigable impacts (Class II) would be slightly less than the Proposed Project.
***Geology, Mineral Resources, and Soils* (see Section D.13 for full analysis)**					
Short-term construction activities would cause erosion, and project facilities would be located in seismically active area with potentially active faults, steep slopes, and active/inactive mines, resulting in mitigable adverse impacts (Class II).	Mitigable adverse impacts (Class II) would be similar to those of the Proposed Project.	Mitigable adverse impacts (Class II) would occur. Where the transmission line is placed underground, temporary impacts would increase, and permanent impacts would decrease compared to those of the Proposed Project. However, overall impacts would remain adverse but mitigable.	Mitigable adverse impacts (Class II) would be similar to those of the Proposed Project.	Mitigable adverse impacts (Class II) would occur. Where the transmission line is placed underground, temporary impacts would increase, and permanent impacts would increase compared to those of the Proposed Project. However, overall impacts would remain less than adverse but mitigable.	Mitigable adverse impacts (Class II) would be less than Proposed Project due to removal of turbine locations near a potential active fault; risks of landslides, earthflows, rockfall are reduced due to the elimination of turbine locations within steeper slope areas; and risks of subsidence are reduced due to the elimination of turbine locations in an area of past mining operations.

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
Public Services and Utilities **(see Section D.14 for full analysis)**					
Construction activities would cause temporary adverse impacts to utility services and water supplies that would be mitigable (Class II).	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be slightly less than the Proposed Project.
Fire and Fuels Management **(see Section D.15 for full analysis)**					
Mitigable adverse impacts (Class II) with implementation of mitigation measures and fire protection plans. ~~Adverse and unmitigable impacts (Class I) would occur as with partial mitigation, certain risks remain. The possibility that a transmission line fault would start a fire remains. Transmission lines also reduce firefighter effectiveness. Therefore, impacts are considered adverse and unmitigable.~~	Mitigable adverse impacts (Class II) ~~Adverse and unmitigable impacts (Class I)~~ would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) ~~Adverse and unmitigable impacts (Class I)~~ would be ~~less~~ similar to~~than~~ the Proposed Project~~, but would remain adverse.~~	Mitigable adverse impacts (Class II) ~~Adverse and unmitigable impacts (Class I)~~ would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) ~~Adverse and unmitigable impacts (Class I)~~ would be ~~less~~ similar to~~than~~ the Proposed Project. ~~, but would remain adverse.~~	Mitigable adverse impacts (Class II) ~~Adverse and unmitigable impacts (Class I)~~ would be similar to the Proposed Project.
Social and Economic Conditions **(see Section D.16 for full analysis)**					
The project would not have an adverse impact, would not displace people or housing, and would	Impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project.	Similar to the Proposed Project, the Project under this alternative would not have an adverse impact, would not

Table E-2 (Continued)

Proposed Tule Wind Project	Tule Alternative Gen-Tie Route 2 with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 2 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch	Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/ O&M Facility on Rough Acres Ranch	Tule Reduction in Turbines
stimulate the local economy.					displace people or housing, and would stimulate the local economy. However, under this alternative revenues from all turbines that would otherwise have been on the Ewiiaapaayp Indian Reservation would be eliminated. Revenues for BLM, California State Lands Commission (CSLC), and the County of San Diego would also be reduced.
***Environmental Justice* (see Section D.17 for full analysis)**					
No impact	No impact	No impact	No impact	No impact	No impact
***Climate Change* (see Section D.18 for full analysis)**					
No adverse impacts (Class III) would occur as the project would assist the State in achieving its renewable energy goals.	No adverse impacts (Class III) would occur, as this alternative would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as this alternative would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as this alternative would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as this alternative would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as under this alternative impacts would be slightly less than but similar to the Proposed Project.

E.3.4 Tule Alternative 4 Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Under this alternative, the proposed Tule Wind Project would consist of 128 turbines and the O&M facility, ~~and~~ collector substation, and temporary concrete batch plant would be relocated to Rough Acres Ranch (private land under the jurisdiction and permitting of San Diego County). This alternative would also reroute the 138 kV transmission line underground from the relocated collector substation partially using Ribbonwood Road to the Boulevard substation. In addition, the proposed overhead collector line located west of Lost Valley Rock would be relocated to east of Lost Valley Rock and constructed within the proposed Tule Wind Project 138 kV alignment that would be vacated as a result of the O&M facility and collector substation location shift. All other project components would be the same and require approval from the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, and CSLC. This alternative would have similar impacts to those described previously in Section E.3.3. Additionally, this alternative would increase the short-term construction impacts associated with trenching and boring activities. Short-term construction impacts from dust and air emissions would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with mitigation (Class II) under CEQA. While long-term ~~fire and~~ visual impacts would remain unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA, this alternative would reduce some of the ~~unmitigable fire and~~ visual impacts associated with the proposed 138 kV transmission line to not adverse under NEPA and less than significant (Class III) under CEQA. Since this alternative would relocate the substation to an area of existing development on Rough Acres Ranch, construction and operations related disturbance to wildlife and cultural resources due to the substation would be reduced. As summarized in Table E-2, impacts to all other issue areas would be similar to the proposed Tule Wind Project, each of the Tule Wind Project Alternatives, and the Proposed Project

E.3.5 Tule Alternative 5 Reduction in Turbines

Under this alternative, ~~62 of~~ the proposed Tule Wind Project would consist of 65 turbines with the removal of 63 specific turbines to include six turbines adjacent to the In-Ko-Pah ACEC being S1, R4, (R8), R8, R9, and R10, and 57 turbines on the western side of the project site, including all turbines in the J, K, L, M, N, P, and Q strings. Under this alternative, ~~134~~ 63 turbines would be removed on lands under the jurisdiction of the BIA, Ewiiaapaayp Band of Kumeyaay Indians, BLM, California State Lands Commission (CSLC), and County of San Diego. As proposed, this alternative would remove ~~17~~ 18 turbines from Ewiiaapaayp Indian Reservation lands, ~~27~~ 33 from lands administered by the BLM, 7 from lands administered by the CSLC, and ~~11~~ 5 from lands under the jurisdiction of the County of San Diego. All other project components would be the same and require

approval from the BLM, BIA, County, and CSLC. By removing turbines presenting high risk of collision to golden eagles based on topography, landforms, and distance to known active nests, unmitigable adverse impacts to golden eagles would be substantially reduced under this alternative. However; the risk of mortality due to collision with the remaining operating turbines to golden eagles, albeit substantially reduced, remains unavoidable adverse under NEPA and significant and unmitigable (Class I) under CEQA despite implementation of the proposed mitigation measures. While this alternative would reduce impacts to all other issue areas, as summarized in Table E-2, impact conclusions would be similar to the proposed Tule Wind Project, each of the Tule Wind Project Alternatives, and the Proposed PROJECT. This alternative would adversely affect the Ewiiaapaayp Band of Kumeyaay Indians' wind and solar energy resources policies to develop renewable energy projects to serve economic and social benefits of its Ewiiaapaayp Band of Kumeyaay Indians' Reservation as it eliminates all turbines on their lands (~~17~~ 18 turbines). This alternative would also reduce the benefits for the BLM (~~27~~ 33 turbines eliminated), CSLC (7 turbines eliminated), and the County of San Diego (~~11~~ 5 turbines eliminated).

E.3.6 Overall Ranking Tule Wind Project Site Alternatives

The conclusions in Sections E.~~4.1~~3.1 through E.3.5~~4.5~~ for the Tule Wind Project Alternatives result in the overall environmentally superior alternative as Tule Reduction in Turbines Alternative combined with Alternative Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acre Ranch. Consideration and adoption of this alternative and/or a variation or other combination of alternatives would be at the discretion of the BLM, BIA, Ewiiaapaayp Band of Kumeyaay Indians, CSLC, and County of San Diego.

This alternative would reduce the overall length of the proposed 138 kV transmission line from 9.6 miles to 4 miles and develop the O&M, ~~and~~ collector substation, and temporary concrete batch plant on a more disturbed site. Similar to the proposed Tule Wind Project this alternative would have unavoidable adverse impacts under NEPA and significant and unmitigable (Class I) impacts under CEQA in the following issue areas: short-term construction noise and air and emissions, long-term visual, ~~fire and fuels management,~~ and bird collisions. Unavoidable adverse (under NEPA) and significant and unmitigable (Class I) under CEQA impacts to golden eagles would be reduced with the removal of turbines within areas considered high risk with known active golden eagle nest. Although this alternative would substantially reduce the risk of golden eagle mortality, the risk of mortality due to collision with the remaining operating turbines, albeit substantially reduced, would remain unavoidable adverse impacts under NEPA and unmitigable and significant (Class I) under CEQA. Impacts in the remaining ~~11~~ 12 issue areas would be either not adverse under NEPA and under CEQA less than significant (Class III); and/or following implementation of mitigation measures presented in this EIR/EIS to be adverse but

mitigated under NEPA, and under CEQA less than significant following implementation of mitigation measures (Class II).

While this alternative would increase short-term construction related impacts to air, noise, water, and erosion due to trenching and boring of the 138 kV transmission line, short-term impacts to these resources would occur within the same area as the proposed project and can be mitigated to less than significant. This alternative would reduce impacts to golden eagles by siting turbines farther away for nesting eagles and would reduce long-term visual ~~and fire~~ impacts associated with the 138 kV transmission line project component from unavoidable adverse under NEPA and significant and unavoidable (Class I) under CEQA to not adverse under NEPA and to less than significant (Class III) under CEQA and, therefore, from a strictly environmental perspective, ranks as the environmentally superior alternative. However, this alternative would remove ~~17~~ 18 turbines on the Ewiiaapaayp Indian Reservation, thereby affecting the Ewiiaapaayp Band of Kumeyaay Indians' wind and solar energy resources policies to develop renewable energy projects to serve economic and social needs of its Ewiiaapaayp Indian Reservation. In addition, ~~27~~ 33 turbines would be removed from lands administered by the BLM, 7 turbines would be removed from lands administered by the CSLC, and ~~11~~ 5 from lands under the jurisdiction of the County of San Diego.

The aboveground and underground Gen-Tie 3 alternatives would reduce the overall length of the proposed 138 kV transmission line from 9.~~6~~ 2 miles as proposed to 5.4 miles when compared to the proposed Tule Wind Project and would potentially reduce some of the proposed project impacts as described previously. They would also, however, create more impacts due to the increased length of the gen-tie required when compared to the Gen-Tie 2 alternatives and therefore were not determined to be environmentally superior

Comparison to the No Project Alternative 3 – No Tule Wind Project

Under the No Project Alternative 3, the Tule Wind Project would not be built, and the existing conditions on the project site would remain. However, the ECO Substation Project and ESJ Gen-Tie Project would be developed. Without the Tule Wind Project, approximately 20~~0~~1 MW of proposed renewable energy production would not be developed on lands in the southeastern portion of San Diego County. While the construction and operations impacts would be reduced under the No Tule Wind Project Alternative (No Project Alternative 3), the unavoidable adverse impacts under NEPA and significant and unmitigable (Class I) under CEQA impacts associated with the ECO Substation and ESJ Gen-Tie projects would occur under this alternative. Given that the No Tule Wind Project Alternative (No Project Alternative 3) would not reduce impacts associated with the ECO Substation and ESJ Gen-Tie projects and would not realize the proposed 20~~0~~1 MW of renewable energy production thereby negatively affecting ~~the region's~~SDG&E's ability to meet its California RPS program ~~and associated Executive Order~~

~~requirements~~targets to increase renewable energy and reduce GHG emissions, it was determined not to be environmentally superior.

E.4 Comparison of ESJ Gen-Tie Alternative

Three alternatives to the ESJ Gen-Tie Project in addition to the No Project/No Action Alternative were identified for evaluation in this EIR/EIS. A detailed analysis of environmental impacts and mitigation for all project alternatives is provided in Sections D.2 through D.18. A comparison of the environmental effects for the proposed ESJ Gen-Tie Project and each of the Alternatives is provided in Table E-3. The County of San Diego will have the sole responsibility in making a decision on the proposed ESJ Gen-Tie Project including which, if any, of the alternatives evaluated in this EIR/EIS should be adopted in consideration of a MUP. It should be noted that in making a decision, it is recommended that the County of San Diego will consult with the DOE and the DOE's decision-making process regarding the ESJ Gen-Tie Project and the CPUC in the CPUC's decision-making process regarding the ECO Substation Project.

The proposed ESJ Gen-Tie Project would have an unavoidable adverse impact under NEPA, and under CEQA, a significant Class I unmitigable impacts ~~in the following issue areas: cultural resources (potential adverse change to traditional cultural properties),~~ with regard to short-term construction air emissions (PM_{10}) ~~and fire and fuels management~~ (see Table E-3). While visual impacts from the ESJ Gen-Tie are found to not be adverse under NEPA, and under CEQA, to be less than significant, visual impacts from the ESJ Phase I Wind development in Mexico were found to have ~~significant and~~ unavoidable adverse impacts under NEPA and significant unavoidable visual impacts (Class I) under CEQA. Impacts in the remaining ~~13~~ 15 issue areas where either found to be not adverse under NEPA and under CEQA less than significant (Class III); and/or following implementation of mitigation presented in this EIR/EIS to be mitigable in that adverse impacts were avoided or minimized (40 CFR 1500.2(f)) and under CEQA, to be less than significant with mitigation implemented (Class II).

E.4.1 ESJ Gen-Tie Alternative Undergrounding 230 kV Gen-Tie Transmission Line

Under this alternative, the proposed 230 kV Gen-Tie Transmission Line would be installed underground rather than overhead. All other project components would be the same. This alternative would increase the short-term construction impacts associated with trenching and boring activities. Short-term construction impacts from air emissions (PM_{10}) would remain unavoidable adverse impact under NEPA significant and unavoidable (Class I) under CEQA. The remaining short-term construction impacts would remain adverse but mitigable under NEPA and less than significant with mitigation (Class II) under CEQA. Long-term fire impacts under this alternative would be less due to undergrounding the transmission line. ~~would be reduced from significant and unavoidable to less than significant with mitigation.~~ While this alternative

would reduce the already less-than-significant visual impact from the Gen-Tie, it would not reduce the unavoidable adverse impact under NEPA, and under CEQA, significant and unavoidable (Class I) visual impacts associated with the Phase I wind development in Mexico. As summarized in Table E-3, impacts to all other issue areas would be similar to the proposed ESJ Gen-Tie Project, each of the ESJ Gen-tie Project Alternatives, and the Proposed PROJECT.

E.4.2 ESJ Gen-Tie Alternative Overhead Gen-Tie Transmission Line Alignment

Under this alternative, the ESJ Gen-Tie site would be shifted 700 feet to the east to connect into the ECO Substation Alternative Site. All other project components would be the same. As summarized in Table E-3, impacts to all other issue areas would be similar to the proposed ESJ Gen-Tie Project, each of the ESJ Gen-tie Project Alternatives, and the Proposed PROJECT.

E.4.3 ESJ Gen-Tie Alternative Underground Gen-Tie Transmission Line Alignment

Under this alternative, the ESJ Gen-Tie would be undergrounded and shifted 700 feet to the east to connect into the ECO Substation Alternative Site. All other project components would be the same. This alternative would increase the short-term construction impacts associated with trenching and boring activities. Short-term construction impacts from air emissions (PM_{10}) would remain an unavoidable adverse impact under NEPA, and under CEQA, significant and unavoidable (Class I). The remaining short-term construction impacts would be adverse but mitigable under NEPA, and under CEQA would remain less than significant with mitigation (Class II). Long-term fire impacts under this alternative would be less due to undergrounding the transmission line~~would be reduced from significant and unavoidable to less than significant with mitigation~~. While this alternative would reduce the already less-than-significant visual impact from the Gen-tie, it would not reduce the unavoidable adverse impact under NEPA, and under CEQA, significant and unavoidable visual impacts associated with the Phase I wind development in Mexico. As summarized in Table E-3, impacts to all other issue areas would be similar to the proposed ESJ Gen-Tie Project, each of the ESJ Gen-tie Project Alternatives, and the Proposed PROJECT.

E.4.4 Overall Ranking ESJ Gen-Tie Alternatives

The conclusions in Sections E.4.1 through E.4.3 for the ESJ Gen-Tie Project Alternatives result in the overall environmentally superior alternative as the ESJ Overhead Gen-Tie Alternative Alignment. Consideration and adoption of this alternative and/or a variation or other combination of alternatives to the ESJ Gen-Tie Project would be at the sole discretion of the County of San Diego.

Table E-3
Comparison of Impacts for the Proposed ESJ Gen-Tie Project and Alternatives

Proposed ESJ Gen-Tie Project	ESJ 230 kV Gen-Tie Underground Alternative	ESJ Gen-Tie Overhead Alternative Alignment	ESJ Gen-Tie Underground Alternative Alignment
Biological Resources **(see Section D.2 for full analysis)**			
Mitigable adverse impacts (Class II) that would be temporary and permanent would occur to native vegetation, and sensitive species and their habitat.	Mitigable adverse impacts (Class II) would be greater than the Proposed Project due to increased ground disturbance, but would remain mitigable.	Mitigable adverse impacts (Class II) would be nearly identical to the Proposed Project.	Mitigable adverse impacts (Class II) would be greater than the Proposed Project, but would remain mitigable.
Visual Resources **(see Section D.3 for full analysis)**			
The ESJ Gen-Tie would have impacts on scenic vistas that would not be adverse (Class III); impacts on visual quality and consistency with visual resource plans and policies would be adverse but mitigable (Class II). The ESJ Wind Phase I Project component in Mexico would cause adverse and unmitigable impacts (Class I) to scenic vistas, visual character, and night-time views.	Adverse and unmitigable impacts (Class I) would remain due to the ESJ Wind Phase I Project, undergrounding the ESJ Gen-Tie line would reduce some impacts already classified as Class II and III.	Impacts would be similar to the Proposed Project.	Adverse and unmitigable impacts (Class I) would remain due to the ESJ Wind Phase I Project; undergrounding the ESJ Gen-Tie line would reduce some impacts already classified as Class II and III.
Land Use **(see Section D.4 for full analysis)**			
Short- and long-term land use impacts would not be adverse (Class III) and with implementation of mitigation measures provided under land use, visual resources, and fire and fuels management, the project was found to be consistent with all land use plans and policies (impacts would be adverse but mitigable (Class II)).	Impacts would be less than those of the Proposed Project and would not be adverse (Class III).	Impacts would be nearly identical to those of the Proposed Project.	Impacts would be less than those of the Proposed Project and would not be adverse (Class III).
Wilderness and Recreation **(see Section D.5 for full analysis)**			
Impacts would not be adverse (Class III).	Temporary impacts would be slightly greater and operations impacts would be slightly less than those of the Proposed Project. However, impacts would remain not adverse (Class III).	Impacts would be nearly identical to those of the Proposed Project.	Temporary impacts would be slightly greater and operations impacts would be slightly less than those of the Proposed Project. However, impacts would remain not adverse (Class III).

Table E-3 (Continued)

Proposed ESJ Gen-Tie Project	ESJ 230 kV Gen-Tie Underground Alternative	ESJ Gen-Tie Overhead Alternative Alignment	ESJ Gen-Tie Underground Alternative Alignment
***Agricultural Resources* (see Section D.6 for full analysis)**			
No impact	No impact	No impact	No impact
***Cultural and Paleontological Resources* (see Section D.7 for full analysis)**			
Impacts would be adverse and mitigable (Class II) due to potential impacts to human remains, archaeological sites, and cultural or paleontological resources during project construction. ~~Adverse and unmitigable i~~Impacts ~~(Class I) may occur~~ to Traditional Cultural Property (TCP) would not be adverse (Class III).~~.~~	Impacts to cultural resources would increase under this alternative due to open trenching along the undergrounded route. ~~Overall impacts would remain adverse and unmitigable (Class I) due to potential i~~Impacts to TCP would not be adverse (Class III).	Impacts would be similar due to potential impacts to human remains, archaeological sites, and cultural or paleontological resources. (Class II). ~~Overall impacts would remain adverse and unmitigable (Class I) due to potential i~~Impacts to TCP would not be adverse (Class III).	Impacts would slightly increase due to open trenching along the undergrounded route. (Class II). ~~Overall impacts would remain adverse and unmitigable (Class I) due to potential i~~Impacts to TCP would not be adverse (Class III).
***Noise* (see Section D.8 for full analysis)**			
Mitigable adverse impacts (Class II) would occur from Corona noise from operations of the transmission lines and noise from other project components. All other project-related noise impacts would not be adverse (Class III).	Undergrounding the transmission lines would result in no adverse noise impacts (Class III) during operations. Construction noise would increase during open trenching, but would not be adverse (Class III).	Mitigable adverse impacts (Class II) would occur and be similar to the Proposed Project. All other project related noise would not be adverse (Class III).	Undergrounding the transmission lines would result in no adverse noise impacts (Class III) during operations. Construction noise would increase during open trenching, but would not be adverse (Class III).
***Transportation and Traffic* (see Section D.9 for full analysis)**			
Mitigable adverse impacts (Class II) would occur that would be short-term and related to construction traffic and roadways.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.
***Public Health and Safety* (see Section D.10 for full analysis)**			
Hazardous materials encountered during construction and electromagnetic interference during operations would result in adverse mitigable impacts (Class II).	Mitigable adverse impacts (Class II) would be greater than the Proposed Project due to trenching for underground installation, but would remain less than significant.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be greater than the Proposed Project due to trenching for underground installation, but would remain less than significant.

Table E-3 (Continued)

Proposed ESJ Gen-Tie Project	ESJ 230 kV Gen-Tie Underground Alternative	ESJ Gen-Tie Overhead Alternative Alignment	ESJ Gen-Tie Underground Alternative Alignment
Air Quality **(see Section D.11 for full analysis)**			
Short-term construction related PM_{10} air emissions would remain adverse with mitigation (Class I). Other short-term air quality impacts would be adverse mitigable (Class II), and long-term impacts would not be adverse (Class III).	Adverse unmitigable impacts (Class I), due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.	Adverse unmitigable impacts (Class I) would be similar to the Proposed Project.	Adverse unmitigable impacts (Class I), due to a section of the transmission line being placed underground, air quality impacts associated with helicopter delivery of aboveground tower components would not occur, but greater impacts related to trenching would occur. Ultimately, impacts would be similar to the Proposed Project.
Water Resources **(see Section D.12 for full analysis)**			
Short-term construction activities would degrade water resources and impact water supply, resulting in adverse but mitigable impacts (Class II).	Mitigable adverse impacts (Class II) would be greater than the Proposed Project, but would be mitigable.	Mitigable adverse impacts (Class II) would be similar to the Proposed Project.	Mitigable adverse impacts (Class II) would be greater than the Proposed Project, but would be mitigable.
Geology, Mineral Resources, and Soils **(see Section D.13 for full analysis)**			
Short-term construction activities would cause erosion and project facilities would be located in seismically active area, resulting in adverse mitigable impacts (Class II).	Mitigable adverse impacts (Class II) would occur. Temporary impacts would be greater and permanent impacts would be less than those of the Proposed Project. However, overall impacts would remain adverse but mitigable.	Mitigable adverse impacts (Class II), would be similar to those of the Proposed Project.	Mitigable adverse impacts (Class II) would occur. Temporary impacts would be greater and permanent impacts would be less than those of the Proposed Project. However, overall impacts would remain adverse but mitigable.
Public Services and Utilities **(see Section D.14 for full analysis)**			
Construction related impacts would occur but would not be adverse (Class III).	Adverse impacts would not occur (Class III), impacts would be similar to those of the Proposed Project.	Adverse impacts would not occur (Class III), impacts would be similar to those of the Proposed Project.	Adverse impacts would not occur (Class III), impacts would be similar to those of the Proposed Project.
Fire and Fuels Management **(see Section D.15 for full analysis)**			
Adverse ~~un~~mitigable impacts (Class II) ~~would occur as with partial mitigation, certain risks~~	Mitigable adverse impacts (Class II) would occur and ~~therefore~~ would be less than the	Mitigable adverse impacts (Class II) ~~Adverse unmitigable impacts (Class I)~~	Mitigable adverse impacts (Class II) ~~Mitigable adverse impacts (Class II)~~

Table E-3 (Continued)

Proposed ESJ Gen-Tie Project	ESJ 230 kV Gen-Tie Underground Alternative	ESJ Gen-Tie Overhead Alternative Alignment	ESJ Gen-Tie Underground Alternative Alignment
~~remain.~~ A transmission line fault could start a fire and reduce firefighter effectiveness, however, with implementation of mitigation, impacts would be adverse but mitigable (Class II). ~~The possibility that a transmission line fault would start a fire remains. Transmission lines also reduce firefighter effectiveness. Therefore impacts are considered adverse and unmitigable.~~	Proposed Project by undergrounding the transmission line.	would be nearly identical to the Proposed Project.	would occur and ~~therefore~~ would be less than the Proposed Project by undergrounding the transmission line,
***Social and Economic Conditions* (see Section D.16 for full analysis)**			
The project would not displace people or housing, and would stimulate the local economy.	Impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project.	Impacts would be similar to the Proposed Project
***Environmental Justice* (see Section D.17 for full analysis)**			
No impact	No impact	No impact	No impact
***Climate Change* (see Section D.18 for full analysis)**			
No adverse impacts (Class III) would occur because the project would assist the State in achieving its renewable energy goals.	No adverse impacts (Class III) would occur, as impacts would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as impacts would be similar to the Proposed Project.	No adverse impacts (Class III) would occur, as impacts would be similar to the Proposed Project.

This alternative would have similar impacts to the proposed ESJ Gen-Tie Project and as such would rank equally with the proposed ESJ Gen-Tie Project. This alternative ranks as the environmentally superior alternative for the ESJ Gen-Tie as it would be required to connect the environmentally superior alternative for the ECO Substation Project which shifts the ECO Substation 700 feet to the east, as described in Section E.2.5. Similar to the proposed ESJ Gen-Tie Project this alternative would have unavoidable adverse impacts under NEPA, and under CEQA significant Class I impacts to short-term construction air emissions ~~and fire and fuels management~~. Impacts in the remaining ~~14~~ 15 issue areas would ~~be~~ either not be adverse under NEPA and less than significant (Class III) under CEQA; and/or adverse but mitigable under NEPA and less than significant following implementation of mitigation measures (Class II) under CEQA presented in this EIR/EIS.

~~While the underground Gen-Tie alternatives would reduce long-term fire, this reduction would only occur for the less than 1-mile gen-tie itself. In the context of developing the ECO Substation and the Phase I ESJ Wind development in Mexico, these impacts would remain significant and unavoidable even with the undergrounding of the gen-tie line.~~ While the undergrounding alternatives would reduce the already less-than-significant visual impacts from the gen-tie, they would not reduce the unavoidable adverse impacts under NEPA, and under CEQA, significant and unavoidable visual impacts associated with the ESJ Phase I Wind development in Mexico. Therefore the minimal reduction in impacts associated with the undergrounding of the less than 1-mile gen-tie (and removal of 5 poles/lattice towers) is not warranted given the increased short-term construction impacts and long term impacts associated with the ECO Substation and Phase I ESJ Wind development both of which are connected by the ESJ Gen-Tie. Therefore when compared to the proposed ESJ Gen-Tie Project and Alternative ESJ Gen-Tie Alignment, the undergrounding alternatives were not determined to be environmentally superior.

Comparison of the No Project Alternative 4 – No ESJ Gen-Tie Project

Under the No Project Alternative 4, the ESJ Gen-Tie Project would not be built, and the existing conditions on the project site would remain. Construction-related impacts associated with the proposed ECO Substation and Tule Wind projects would also occur under this alternative. If the proposed ESJ Gen-Tie Project were not constructed, it is likely that an alternative gen-tie would be constructed. The impacts associated with this gen-tie would be expected to be similar to those described in Section D~~.8.3.3~~, but could vary depending on length of gen-tie line and the location pursued. As it is unknown whether the No ESJ Gen-Tie Project (No Project Alternative 4) would actually reduce impacts and may increase impacts, it was determined not to be environmentally superior.

E.5 Environmentally Superior Alternative/Agency-Preferred Alternative

E.5.1 CEQA Environmentally Superior Alternative

CEQA requires that the environmentally superior alternative be selected from a range of reasonable alternatives that could feasibly attain the basic objectives of the project. Based on the analysis presented in Sections D.2 through D.18 of this EIR/EIS the environmentally superior alternative was determined to be the No Project Alternative 1. Under the No Project Alternative 1, the Proposed PROJECT (including the ECO Substation, Tule Wind, ESJ Gen-Tie, Campo, Manzanita, and Jordan Wind energy projects) would not be constructed. All environmental impacts associated with the construction and operation of the Proposed Project would be eliminated and existing environmental conditions would be unaffected. There would be no new renewable energy source in the southeastern portion of San Diego County, and consequently, ~~the region~~SDG&E may not meet its California RPS ~~program and associated Executive Order requirements~~targets. Further, the~~The~~ BLM ~~in the area~~ would not develop renewable energy on federal lands ~~in compliance~~to comply with the Energy Policy Act of 2005. The southeastern energy transmission system servicing the Boulevard, Jacumba, and other surrounding communities would remain unstable.

Since CEQA Guidelines, section 15126, subd. (d)(2), further stipulates that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

Overall, based on the analysis for each alternative presented in Sections D.2 through D.18, and as summarized in Sections E.3 through E.5, the environmentally superior alternative is defined in Table E-4 and illustrated in Figure E-1B.

Table E-4
Environmentally Superior Alternative

Alternative	Jurisdiction
ECO Substation Project	
ECO Substation Site Alternative	CPUC to consider in consultation with the County of San Diego and DOE's decision-making process on the ESJ Gen-Tie Project
Partial Underground of the proposed 138 kV transmission line from MP 9.0 to MP 13.3 and reroute and undergrounding of the proposed 138 kV transmission line between MP 0.3 and MP 2.4 along Old Highway 80 and Carrizo Gorge Road.	CPUC and BLM to consider
Boulevard Substation Rebuild	CPUC to consider

Table E-4 (Continued)

Alternative	Jurisdiction
Remaining components same as described for the proposed ECO Substation Project	CPUC to consider all remaining components. BLM to consider ROW Grant for proposed 138 kV transmission line from MP 0.1 to MP 1.6
Tule Wind Project	
Tule Wind Project Alternative 5 Reduced Turbine Alternative	County, BLM, BIA, CSLC, and Ewiiaapaayp Band of Kumeyaay Indians to consider reduction of turbines on County, BLM, CSLC, and tribal lands.
Tule Wind Project Alternative 2 Alternative Gen-Tie Route 2 underground with Collector Substation/O&M Facility on Rough Acres Ranch	County of San Diego to consider in consultation with BLM, CSLC and BIA
ESJ Gen-Tie Project	
ESJ Gen-Tie Alternative Overhead Transmission Line Alignment	County of San Diego to consider in consultation with DOE and CPUC

It should be noted that since the Campo, Manzanita, and Jordan wind energy projects are not defined at a project level (due to insufficient detail at this time) and are instead addressed at a program level in this EIR/EIS, these projects are not included in the environmentally superior alternative and will be considered in detail in future environmental analysis conducted for these projects.

As with the Proposed Project, the environmentally superior alternative would result in the following unavoidable adverse impacts under NEPA and unmitigable (Class I) impacts under CEQA:

- **Air Quality:** Short-term construction VOC, NOx, and dust emissions associated with the Tule Wind Project, short-term construction NOx and dust emissions associated with the ECO Substation Project, and short-term construction dust emissions associated with the ESJ Gen-Tie Project.
- **Noise:** Short-term construction noise associated with the ECO Substation Project and Tule Wind Project.
- **Biological Resources:** Direct loss of QCB habitat associated with the ECO Substation Project and bird/golden eagle strikes from wind turbines.
- **Visual Character:** Scenic vistas~~,~~ and visual character impacts associated, ~~and new sources of light associated~~ with the ECO Substation, Tule Wind, and ESJ Wind Phase I projects and new sources of light associated with the Tule Wind and ESJ Wind Phase I projects.
- **Fire Fuels**: Possibility of fire ignition from transmission lines and interference with firefighting associated with the ECO Substation Project~~, Tule Wind Project, and ESJ Gen-Tie Project.~~

- **Cultural Resources**: Without confirmation that Traditional Cultural Properties are not in the project area, impacts to cultural resources would remain adverse and unavoidable for the ECO Substation~~,~~ and Tule Wind~~, and ESJ Gen-Tie~~ projects.

This alternative would result in greater short-term and temporary air quality emissions and noise effects compared to the Proposed Project, but these would be during construction and short-term only. This alternative's long-term reduction in visual resource impacts and fire and fuels impacts (for the Tule Wind Project extending 25 years until project decommissioning), while still unmitigable, would result in a greater overall reduction in impacts when compared to the Proposed Project. This alternative would reduce unavoidable adverse impacts under NEPA, and unmitigable (Class I) impacts under CEQA associated with bird/golden eagle strikes from wind turbines and would reduce avian collision and electrocution risk and, therefore, from a strictly environmental perspective, ranks as the environmentally superior alternative. However, this alternative would remove ~~17~~ 18 turbines on the Ewiiaapaayp Band of Kumeyaay Indians Reservation, thereby affecting the Ewiiaapaayp Band of Kumeyaay Indians' wind and solar energy resources policies to develop renewable energy projects to serve economic and social needs of its Ewiiaapaayp Band of Kumeyaay Indians Reservation. In addition, ~~27~~ 33 turbines would be removed from lands ~~administered~~ managed by the BLM, 7 turbines would be removed from lands administered by the CSLC, and ~~11~~ 5 from lands under the jurisdiction of the County of San Diego.

E.5.2 BLM-Preferred Alternative

The BLM's preferred alternative per NEPA requirements ~~and pending public comment on the Draft EIS~~ for the ECO Substation project component is the ECO Substation Alternative Site, combined with ECO Partial Underground 138 kV Transmission Route Alternative, combined with Boulevard Substation Rebuild and for the Tule Wind Project component is the Tule Wind Alternative 5, Reduction in Turbines, combined with Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch. This conclusion is based on the analysis presented in Sections D.2 through D.18.

The identification of a preferred alternative does not constitute a commitment or decision, and there is no requirement to select the preferred alternative in the record of decision. The identification of the preferred alternative may change between a draft EIS and final EIS. Various parts of separate alternatives that are analyzed in the draft can also be "mixed and matched" to develop a complete alternative in the final EIS as long as the reasons for doing so are explained. Selection in the record of decision of an alternative other than the preferred alternative does not require preparation of a supplemental EIS.

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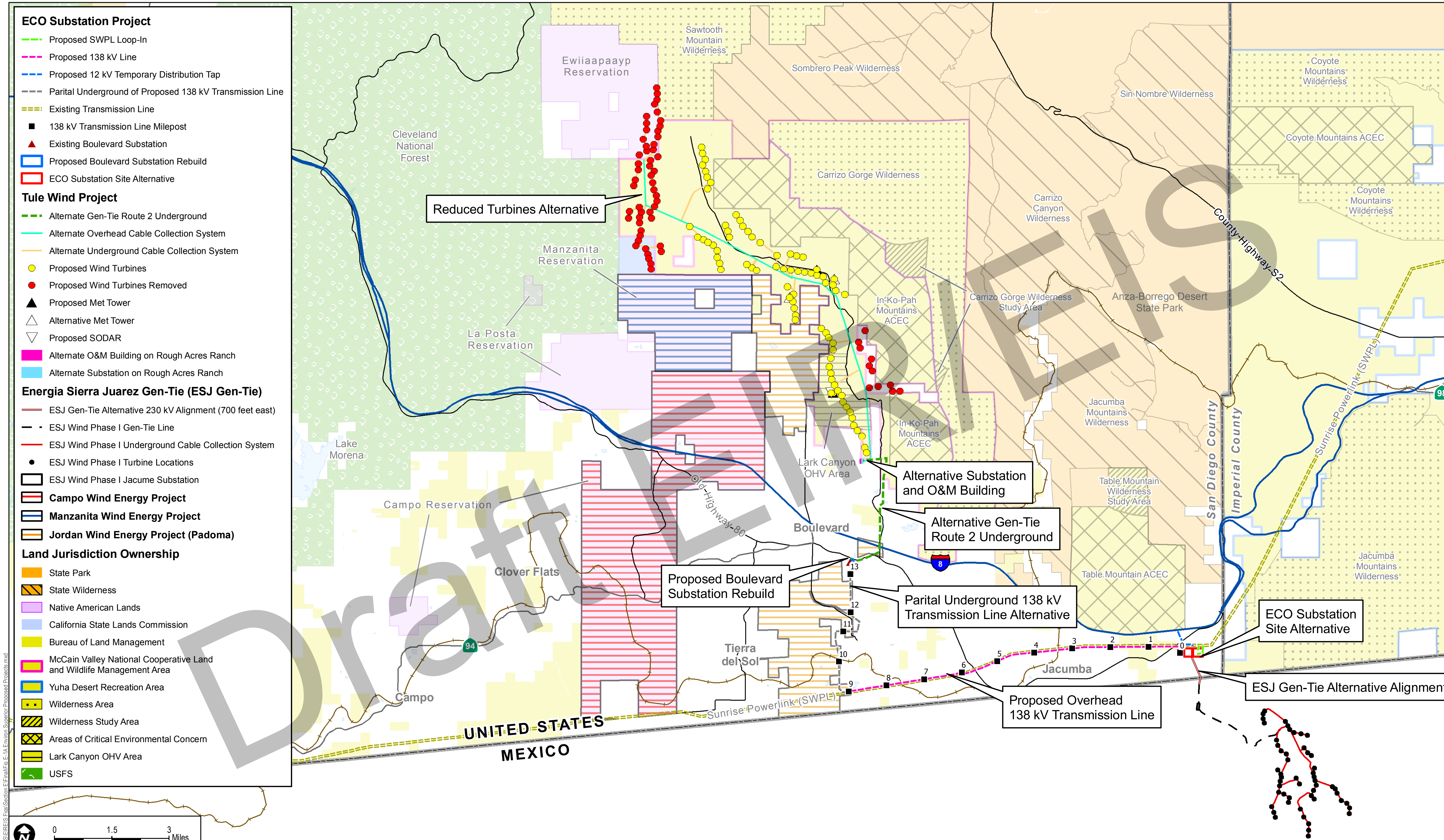
ECO Substation Project
Proposed SWPL Loop-In
Proposed 138 kV Line
Proposed 12 kV Temporary Distribution Tap
Parital Underground of Proposed 138 kV Transmission Line
Existing Transmission Line
138 kV Transmission Line Milepost
Existing Boulevard Substation
Proposed Boulevard Substation Rebuild
ECO Substation Site Alternative
Tule Wind Project
Alternate Gen-Tie Route 2 Underground
Alternate Overhead Cable Collection System
Alternate Underground Cable Collection System
Proposed Wind Turbines
Proposed Wind Turbines Removed
Proposed Met Tower
Alternative Met Tower
Proposed SODAR
Alternate O&M Building on Rough Acres Ranch
Alternate Substation on Rough Acres Ranch
Energia Sierra Juarez Gen-Tie (ESJ Gen-Tie)
ESJ Gen-Tie Alternative 230 kV Alignment (700 feet east)
ESJ Wind Phase I Gen-Tie Line
ESJ Wind Phase I Underground Cable Collection System
ESJ Wind Phase I Turbine Locations
ESJ Wind Phase I Jacume Substation
Campo Wind Energy Project
Manzanita Wind Energy Project
Jordan Wind Energy Project (Padoma)
Land Jurisdiction Ownership
State Park
State Wilderness
Native American Lands
California State Lands Commission
Bureau of Land Management
McCain Valley National Cooperative Land and Wildlife Management Area
Yuha Desert Recreation Area
Wilderness Area
Wilderness Study Area
Areas of Critical Environmental Concern
Lark Canyon OHV Area
USFS
Reduced Turbines Alternative
Alternative Substation and O&M Building
Alternative Gen-Tie Route 2 Underground
Proposed Boulevard Substation Rebuild
Parital Underground 138 kV Transmission Line Alternative
ECO Substation Site Alternative
ESJ Gen-Tie Alternative Alignment
Proposed Overhead 138 kV Transmission Line
Ewiiaapaayp Reservation
Sawtooth Mountain Wilderness
Sombrero Peak Wilderness
Sin Nombre Wilderness
Coyote Mountains Wilderness
Coyote Mountains ACEC
Cleveland National Forest
Carrizo Gorge Wilderness
Carrizo Canyon Wilderness
County Highway S2
Manzanita Reservation
In-Ko-Pah Mountains ACEC
Carrizo Gorge Wilderness Study Area
Anza-Borrego Desert State Park
La Posta Reservation
Jacumba Mountains Wilderness
Lake Morena
Lark Canyon OHV Area
Table Mountain Wilderness Study Area
Campo Reservation
Old Highway 80
Boulevard
San Diego County
Imperial County
Sunrise Powerlink (SWPL)
Clover Flats
Table Mountain ACEC
Tierra del Sol
Jacumba
Campo
UNITED STATES
MEXICO
Draft EIR/EIS
0 1.5 3 Miles

DUDEK

6168-01

SOURCE: BLM; SanGIS; SANDAG; USFS; Tule Wind Project: HDR Engineering 2010;
ESJ U.S. Project: ENTRIX 2009; ESJ Wind Project: ENTRIX 2010;
ECO Substation Project: SDG&E 2009

FIGURE E-1A
Environmentally Superior Alternative

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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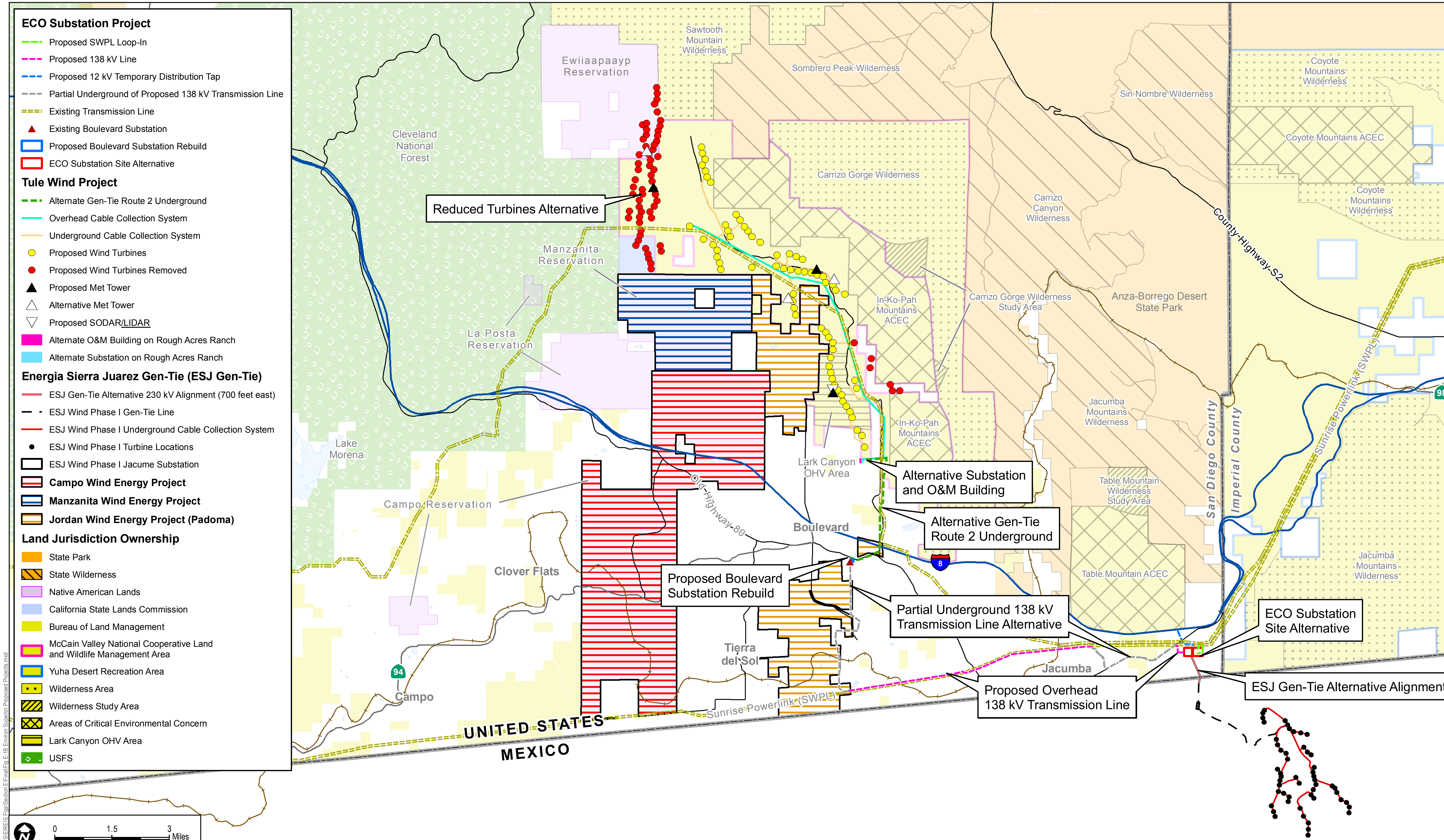
ECO Substation Project
Proposed SWPL Loop-In
Proposed 138 kV Line
Proposed 12 kV Temporary Distribution Tap
Partial Underground of Proposed 138 kV Transmission Line
Existing Transmission Line
Existing Boulevard Substation
Proposed Boulevard Substation Rebuild
ECO Substation Site Alternative
Tule Wind Project
Alternate Gen-Tie Route 2 Underground
Overhead Cable Collection System
Underground Cable Collection System
Proposed Wind Turbines
Proposed Wind Turbines Removed
Proposed Met Tower
Alternative Met Tower
Proposed SODAR/LIDAR
Alternate O&M Building on Rough Acres Ranch
Alternate Substation on Rough Acres Ranch
Energia Sierra Juarez Gen-Tie (ESJ Gen-Tie)
ESJ Gen-Tie Alternative 230 kV Alignment (700 feet east)
ESJ Wind Phase I Gen-Tie Line
ESJ Wind Phase I Underground Cable Collection System
ESJ Wind Phase I Turbine Locations
ESJ Wind Phase I Jacume Substation
Campo Wind Energy Project
Manzanita Wind Energy Project
Jordan Wind Energy Project (Padoma)
Land Jurisdiction Ownership
State Park
State Wilderness
Native American Lands
California State Lands Commission
Bureau of Land Management
McCain Valley National Cooperative Land and Wildlife Management Area
Yuha Desert Recreation Area
Wilderness Area
Wilderness Study Area
Areas of Critical Environmental Concern
Lark Canyon OHV Area
USFS
Reduced Turbines Alternative
Alternative Substation and O&M Building
Alternative Gen-Tie Route 2 Underground
Proposed Boulevard Substation Rebuild
Partial Underground 138 kV Transmission Line Alternative
ECO Substation Site Alternative
Proposed Overhead 138 kV Transmission Line
ESJ Gen-Tie Alternative Alignment
Ewiiaapaayp Reservation
Cleveland National Forest
Sawtooth Mountain Wilderness
Sombrero Peak Wilderness
Sin Nombre Wilderness
Coyote Mountains Wilderness
Coyote Mountains ACEC
Carrizo Gorge Wilderness
Carrizo Canyon Wilderness
Manzanita Reservation
La Posta Reservation
In-Ko-Pah Mountains ACEC
Carrizo Gorge Wilderness Study Area
Anza-Borrego Desert State Park
County Highway S2
Lake Morena
Lark Canyon OHV Area
Jacumba Mountains Wilderness
Table Mountain Wilderness Study Area
Table Mountain ACEC
Campo Reservation
Old Highway 80
Boulevard
Clover Flats
Tierra del Sol
Jacumba
Campo
Sunrise Powerlink (SWPL)
San Diego County
Imperial County
UNITED STATES
MEXICO
0 1.5 3 Miles

DUDEK

6168-01

SOURCE: BLM; SanGIS; SANDAG; USFS; Tule Wind Project: HDR Engineering 2010; Iberdrola Renewables 2011
ESJ U.S. Project: ENTRIX 2009; ESJ Wind Project: ENTRIX 2010;
ECO Substation Project: SDG&E 2009

FIGURE E-1B
Environmentally Superior Alternative

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

Note: Figure depicts the Tule Wind modified project layout

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