

CHAPTER 3.0

ENVIRONMENTAL SETTING

SECTION 3.1

VISUAL RESOURCES

3.1 VISUAL RESOURCES

This section provides a discussion of the existing visual resources in the vicinity of the project site that could potentially be affected by the construction and operation of the CSE Facility and Gen-tie Line. This section also describes the Visual Resource Management Approach used by the Bureau of Land Management to evaluate Key Observation Points (KOPs).

3.1.1 REGULATORY FRAMEWORK

3.1.1.1 FEDERAL

A. Bureau of Land Management

In 1976, Congress designated 25 million acres of land in Southern California as the California Desert Conservation Area (CDCA) through the Federal Land Policy and Management Act. The Bureau of Land Management (BLM) oversees approximately 10 million acres of the CDCA (BLM, 1980). All of the public lands in the CDCA managed by the BLM (with the exception of a few small and scattered parcels), are designated into four multiple-use classes.

The portion of the Gen-tie Line on BLM land is located entirely within the Yuha Basin Area of Critical Environmental Concern (ACEC) of the CDCA Plan. More specifically, the Gen-tie Line is located within a Multiple-Use Class L (Limited Use) designated area within the CDCA. The Multiple-Use Class L (Limited Use) designation protects sensitive, natural, scenic, ecological, and cultural resource values. Multiple-Use Class L are managed to provide for generally lower-intensity, controlled multiple use of resources to protect sensitive values (BLM, 1980).

The CSE Facility site is located east of, and outside the designated ACEC.

B. Visual Resource Inventory

The primary means to determine visual resource values is to conduct a Visual Resource Inventory (VRI) as described in *Manual H-8410-1 – Visual Resource Inventory* (Manual H-8410-1) (BLM, 1986a) provides BLM managers with a means for determining visual values. The Visual Resource Inventory is a process to determine visual (scenic) values within the Field Office at a specific point in time. (The area in which the Gen-tie Line portion of the proposed project on BLM land is located is the responsibility of the El Centro Field Office.) Visual Resource Inventory Classes provide the basis for considering visual values in the Resource Management Planning process and incorporate several factors including scenic quality, viewer sensitivity and viewing distance. They do not establish management direction but do provide a basis for analyzing impacts and developing mitigating measures for projects. They are considered the baseline data for existing conditions

Visual resource values are determined through a systematic process that documents the landscape's scenic quality, public sensitivity and visibility. Rating units for each of the three factors are mapped individually, evaluated, and then combined through an over-layering analysis.

There are three primary components to a visual resource inventory: Scenic Quality Evaluation; Sensitivity Level Analysis, and Delineation of Distance Zones. The three considerations are briefly described below.

- **Scenic Quality.** Scenic Quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural features (landforms, vegetation, water, color, adjacent scenery, and scarcity) and built features (roads, buildings,

railroads, agricultural patterns, and utility lines). These features create the distinguishable form, line, color, and texture of the landscape composition that can be judged for scenic quality using criteria such as distinctiveness, contrast, variety, harmony, and balance. Scenic quality rating components are evaluated to arrive at one of three scenic quality ratings (A, B, or C) for a given landscape. The Gen-tie Line portion of the proposed project on federal land managed by the BLM is designated as Scenic Quality Rating Unit 12 – Yuha Desert on Map 2-1 of the Visual Resource Inventory (BLM, 2010) with a Scenic Quality Classification of C based on its total score of 7.5 (BLM, 2010, p. A-39). The seven criteria had the following ratings: Landform, flat to gently sloping (rating 1 on a scale of 1 to 4.5); Vegetation, some unique areas, different vegetation types; Crucifixion Thorn Natural Area Washes more diverse (rating 2.5 on a scale of 1 to 4.5); Water, Not present (rating 0 on a scale of 0 to 2); Color, subtle, little variation or contrast (rating 1.5 on a scale of 0 to 4.5); Adjacent Scenery, wilderness areas to within 20 miles to the west, Jacumba Mountains Wilderness and the Coyote Mountains Wilderness (rating 2 on a scale of 0 to 4); Scarcity, vastness/open valley with creosote, common (rating 1 on a scale of 1 to 4.5); Cultural Modification, transformer station, power lines (rating -0.5 on a scale of -1.5 to -0.5). The resulting score and rating of C (with “A” being the highest and “C” the lowest) was derived due to the featureless landform with some unique areas of vegetation in the western portion, and views of the Coyote Mountains Wilderness to the west (BLM, 2010, p. 13).

- **Viewer Sensitivity.** Viewer Sensitivity is a factor used to represent the value of the visual landscape to the viewing public, including the extent to which the landscape is viewed. For example, a landscape may have high scenic qualities but be remotely located and, therefore, seldom viewed. Sensitivity considers such factors as visual access (including duration and frequency of view), type and amount of use, public interest, adjacent land uses, and whether the landscape is part of a special area (e.g., California Desert Conservation Area [CDCA] or Area of Critical Environmental Concern).

The Gen-tie Line portion of the proposed project on federal land managed by the BLM has an overall rating of “High” per the Visual Resource Inventory (BLM, 2010, p. B-13). This rating was derived due to the fact that the Yuha Desert is biologically and culturally significant with many visually important features including Crucifixion Thorn Natural Area, and Juan Bautista de Anza National Historic Trail. It was also determined based on the fact that the Yuha Desert is considered a recreation, wilderness access and travel corridor area. The predominant types of users of the Yuha Desert are commuters, tourists and campers in designated spots. The Yuha Desert ranked high on all criteria for the following reasons: Type of Use (two major highways surround the unit; heavy traffic, camping); Amount of Use (Highways receive a lot of traffic from travelers, border patrol; unit is highly visible); Public Interest (Culturally significant on a local/regional level); Adjacent Land Uses (In the backyard of Ocotillo, Plaster City); Special Area Sensitivity (Cultural Area of Critical Environmental Concern); and Other Factors (not present).

- **Viewing Distance Zones.** Viewing Distance Zones describe how far from a specific vantage point a feature is visible. Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points. The Foreground/Middleground (F/M) zone includes areas that are less than three to five miles from the viewing location. The F/M zone defines the area in which landscape details transition from readily perceived to outlines and patterns. The background (B) zone is generally greater than five, but less than 15, miles from the viewing location. The B zone includes areas where landforms are the most dominant element in the landscape, and color and texture become subordinate. In order to be included within this distance zone, vegetation should be visible at least as patterns of light and dark. The

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seldom-seen (S/S) zone includes areas that are usually hidden from view as a result of topographic or vegetative screening or atmospheric conditions. In some cases, atmospheric and lighting conditions can reduce visibility and shorten the distances normally covered by each zone (BLM 1986b). The Gen-tie Line portion of the proposed project on federal land managed by the BLM is designated F/M visibility generally up to 5 miles on Map 4-1 Distance Zones of the Visual Resource Inventory (BLM, 2010).

Based on a scenic quality, sensitivity level, and distance zones, federal lands managed by the BLM are placed into one of four Visual Resource Inventory (VRI) Classes which represent the relative value of the visual resources. There are four VRI Classes (I to IV). These inventory classes represent the relative value of the visual resources.

Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man. This class includes areas such as congressionally designated wildernesses, wild sections of national wild and scenic rivers, and other areas designated congressionally and administratively to preserve a natural landscape.

Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones as shown in **Table 3.1-1**. These assignments are based on combining the three overlays (scenic quality, sensitivity levels, and distance zones) and using the guidelines summarized in **Table 3.1-1** (and Illustration 11 of Manual 8410). The end product is a visual resource inventory class overlay (Illustration 12 of Manual 8410). Inventory classes are informational in nature and provide the basis for considering visual values in the Resource Management Plan (RMP) process. They do not establish management direction but do provide a basis for analyzing impacts and developing mitigating measures for projects. The Gen-tie Line portion of the proposed project on federal land managed by the BLM falls into VRI Class III based on its Scenic Quality Classification of C, and High Visual Sensitivity Level, and Viewing Distance Zone of F/M (BLM, 2010 p. B-13 and A-39). Moreover, the Yuha Desert is depicted in Class III in Map 5-1 - Visual Resource Inventory as part of the El Centro Field Office Visual Resource Inventory (BLM, 2010, p. 44).

**TABLE 3.1-1
DETERMINING VISUAL RESOURCE INVENTORY CLASSES**

		Visual Sensitivity Levels					
		High			Medium		Low
Special Areas		I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II
	B	II	III	III* IV*	III	IV	IV
	C	III	IV	IV	IV	IV	IV
		F/M	B	S/S	F/M	B	S/S
		Distance Zones					

Source: BLM, 1986a.

* If adjacent areas are Class III or lower assign Class III, if higher assign Class IV

Classes I and II are the most valued, Class III represents a moderate value, and Class IV is of the least value for visual resources.

C. Visual Resources Management

VRI classes are not intended to automatically become Visual Resource Management (VRM) class designations and can in some cases be different than the VRI classes assigned in the inventory. VRM classes should reflect a balance between protection of visual values while meeting energy and other land use, or commodity needs.

The BLM determines VRM classes through careful analyses of multiple land uses and natural resources, including visual resources, for all BLM-administered lands through the RMP process. The VRM classes are a land use plan decision that guides future site-specific management actions for implementing the RMP. Boundaries of visual inventory classes may be adjusted as necessary to reflect resource allocation decisions made in RMPs. For example, the BLM may assign an area with a VRI Class II designation a VRM Class IV designation, based on its overriding value for mineral resource extraction, or its designation as a utility corridor.

Table 3.1-2 shows the Visual Resource Management Objectives that have been established for each class in Manual H-8410-1.

**TABLE 3.1-2
VISUAL RESOURCE MANAGEMENT OBJECTIVES BY CLASS**

VRM Class	Objective
Class I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV	The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Source: BLM, 2010.

The applicable resource management policy for the Proposed Action is the CDCA Plan. However, the CDCA Plan does not contain a visual resource element, and has not established VRM Classes. When a project is in an area without Resource Management Policy-approved VRM objectives, Interim Visual

Resource Management (IVRM) Classes for baseline analysis only. These classes may be restricted in geographic scope to areas affected by the proposed action.

The proposed project site would be in VRM Class III based on its Scenic Quality Rating of C (BLM, 2010, p. A-39) and its visual sensitivity designation of “High” (BLM, 2010, p. B-13) (refer to **Table 3.1-1**).

D. Visual Contrast Rating

Manual H-8431 - Visual Resource Contrast Rating (Manual H-8431) (BLM, 1986b) states:

The contrast rating system is a systematic process used by the Bureau of Land Management (BLM) to analyze potential visual impact of proposed projects and activities....The basic philosophy underlying the system is: The degree to which a management activity affects the visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project. This assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

The contrast rating system is not the only means of resolving potential visual impacts. Rather it serves as a guide to ensure that potential visual impacts are minimized. The contrast rating is done from KOPs, the most critical viewpoints in the project area. These typically occur along commonly traveled routes or at other likely observation points. Factors considered in selecting KOP's include angle of observation, number of viewers, length of time the project is in view, relative project size, season of use, and light conditions.

3.1.1.2 STATE

A. Southern California Association of Governments

The Southern California Association of Governments (SCAG) Intergovernmental Review (IGR) section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG's adopted regional plans and policies. The IGR section does not include any policies that address aesthetics, light or glare. Therefore, there are no policies that relate to the analysis of visual resources and the project cannot be analyzed for consistency with SCAG's IGR section.

3.1.1.3 LOCAL

A. Imperial County General Plan

Two elements of the Imperial County General Plan discuss issues relevant to the analysis of visual resources. These include the Circulation and Scenic Highways Element and the Conservation and Open Space Element.

Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element of the Imperial County General Plan (Imperial County, revised 2008) identifies the transportation needs of the County and the various modes available to meet

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these needs. In addition, the Element provides a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors. There are no designated scenic highways in the area surrounding the project nor is the project site visible from any designated scenic highway.

Conservation and Open Space Element

The Conservation and Open Space Element of the Imperial County General Plan identifies plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space. **Table 3.1-3** analyzes the consistency of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative with the applicable policies relating to visual resources from the Imperial County General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.1-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Conservation And Open Space Policies		
Preservation of Visual Resources		
<p>Goal 7: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.</p>	No	<p>Within Imperial County, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would change the visual character of the project site from agricultural fields to a solar energy facility with tower structures and electrical lines. While the introduction of the project would change the visual character of the area, and the proposed features would not be perceived as enhancing the aesthetic character of the region, no significant visual impact would occur based on the site’s rural location and lack of distinctive features. Because the proposed Project would not protect or enhance the aesthetic character of the region, the Proposed Action and Alternatives 1, 2 and 3 would not be consistent with Goal 7. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not result in any visual changes. Potential visual and aesthetic impacts associated with the Proposed Action and alternatives are evaluated in detail in Section 4.1, Visual Resources.</p>
<p>Objective 7.1 Encourage the preservation and enhancement of the natural beauty of the desert and mountain landscape.</p>	No	<p>Tower structures proposed as part of the Gen-tie Line for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures,</p>

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**TABLE 3.1-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		<p>Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be visible. However, 230-kV lines are currently visible through BLM land within Utility Corridor N. The Proposed Action as well as Alternatives 1, 2 and 3 would add to the Gen-tie Line to the existing landscape in this area of the County. Thus, the Proposed Action, Alternatives 1, 2 and 3 objective 7.1. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not result in any visual changes.</p>
Land Use Element		
Regional Vision		
<p>Objective 3.4 Protect/improve the aesthetics of Imperial County and its communities</p>	<p>No</p>	<p>The proposed project is located in a rural portion of Imperial County. The site is currently used for agricultural purposes and does not contain any scenic features. Based on the rural nature of the area, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would not obstruct views or degrade scenic vistas. However, the project would also not protect or improve the aesthetics of the County. Therefore, the Proposed Action and Alternatives 1, 2 and 3 would not be consistent with objective 3.4. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not result in any visual changes.</p>
<p>Objective 3.6 Recognize and coordinate planning activities as applicable with the Bureau of Land management (BLM), and the California Desert Conservation Plan.</p>	<p>Yes</p>	<p>The Applicant has coordinated with the BLM regarding the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. The proposed project is designed to preserve the BLM area that surrounds the site and be consistent with the California Desert Conservation Area (CDCA) Plan because the proposed Gen-tie Line is located entirely within the designated Utility Corridor N. The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures,</p>

**TABLE 3.1-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are all consistent with the CDCA Plan and would also be consistent with objective 3.6. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would in no way affect BLM land.

3.1.2 AFFECTED ENVIRONMENT

3.1.2.1 VISUAL CHARACTER AND SCENIC QUALITY

A. General Approach

The visual setting includes BLM land and non-federal public and private lands under the jurisdiction of Imperial County. For consistency, the same visual approach (the BLM’s Visual Resource Management [VRM] System) was used for both the portion of the Gen-tie Line within the jurisdiction of BLM and the portion of the Gen-tie Line and CSE Facility on Imperial County lands. The VRM System is discussed in further detail in Section 4.1, but is referenced here to provide context when describing existing features of the project area. While it is acknowledged that the BLM has no visual resource management authority over lands in Imperial County, the VRM System provides a framework for assessing visual impacts on both BLM and non-BLM (Imperial County) land.

B. Regional

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand hills, mountain ranges, and the Salton Sea.

The desert includes several distinct areas which add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County.

C. Surrounding Area

The area surrounding the project site is largely devoted to agriculture on the north and east. The area is flat with two-lane roads and dirt roads aligned through and adjacent to the CSE Facility site. Names roads include Brockman Road, Pulliam Road, Kubler Road, Drew Road, Fisher Road and Wormwood Road. State Route (SR) 98 is a two-lane undivided, at grade-road that aligns east-west through the southern portion of the CSE Facility site and is adjacent to a portion of the Gen-tie Line. Numerous canals, ditches and drains owned by the Imperial Irrigation District (IID) are located though the area surrounding the project site. Earthen berms, overhead telephone lines, scattered trees and brush, and agricultural fields dominate the scenery. Development in the area is sparse with the abandoned Mt. Signal Café located adjacent to the southern portion of the CSE Facility along Brockman Road and SR 98 and the Brockman homestead house and farm equipment yard located along the east side of Brockman Road.

D. Project Site

The Proposed Action site consists of two primary components: 1) the CSE Facility site; 2) the Gen-tie Line.

CSE Facility

The CSE Facility is located on private land in the unincorporated area of Imperial County, south of Seeley, California, near Mount Signal and approximately 8 miles southwest of the City of El Centro. The CSE Facility site consists of approximately 2,067 gross acres of privately-owned land, currently used for agricultural production. Federal lands under the jurisdiction of the BLM are located immediately west of the western-most parcel with the Gen-tie Line easement. The boundary of the western-most extent of the private property is adjacent to BLM land designated as Utility Corridor N within the Yuha Desert, in the BLM's CDCA Plan. Agricultural lands are located north, south, east, and west of portions of the site. (Refer to Figure 2.0-2 in Chapter 2.0 for an aerial photograph of the project area). Two single-family residences (on parcels 052-170-018 and 052-170-076) along Kubler Road are located on the site and are planned to be demolished and removed. A mobile home on parcel 052-170-058 at the intersection of Kubler Road and Pulliam Road will be removed prior to construction.

Gen-tie Line Corridor

The western-most boundary of the private property through which the Gen-tie Line would extend is adjacent to BLM land. Approximately 4.25 miles of the Gen-tie Line would extend west into BLM land then north, to connect with the Imperial Valley Substation (refer to Figure 2.0-2 and Figure 2.0-3 in Chapter 2.0). This segment of the Gen-tie Line is located within the Multiple-Use Class L (Limited Use) of the CDCA Plan and would align through Utility Corridor N. This area is within the eastern boundary of the Yuha Desert, a distinctive section of the Colorado Desert. The Yuha Desert is a unit defined by the Yuha Basin Area of Critical Environmental Concern (ACEC) for its unique biological, historic, and archaeological characteristics. The Yuha Desert differs from the Yuha Basin itself and is flatter with few to no erosional features (BLM, 2010, p. A-38).

The Yuha Desert encompasses approximately 52,666 acres (including all BLM and non-BLM administered lands) and contains many visually important features including Crucifixion Thorn Natural Area, Juan Bautista de Anza National Historic Trail (BLM, 2010, p. B-13). However, these resources are not located near the Gen-tie Line. Unique areas of vegetation and views of the Coyote Mountains Wilderness are visible in the western portion of the Yuha Desert (approximately 9 miles west of the proposed Gen-tie Line). The area surrounding the proposed Gen-tie Line is featureless landform characterized by vacant

desert lands and existing utilities, including several 230-kV transmission lines and towers within the Utility Corridor N. The Yuha Desert unit would be considered common and ordinary from a visual perspective if it did not contain vegetation and adjacent scenery in its western portion (BLM, 2010, p. A-39).

3.1.2.2 VIEWSHED

Existing views onto the project site are available from the surrounding areas, specifically from SR 98, Brockman Road, and Fisher Road. Due to the flat topography of the project site and the surrounding area, the existing transmission lines located within the Utility Corridor N are the only readily visible feature from many viewpoints. No other unique topographical features are associated with any portion of the project site (CSE Facility or Gen-tie Line portion on federal lands).

A. Key Observation Points

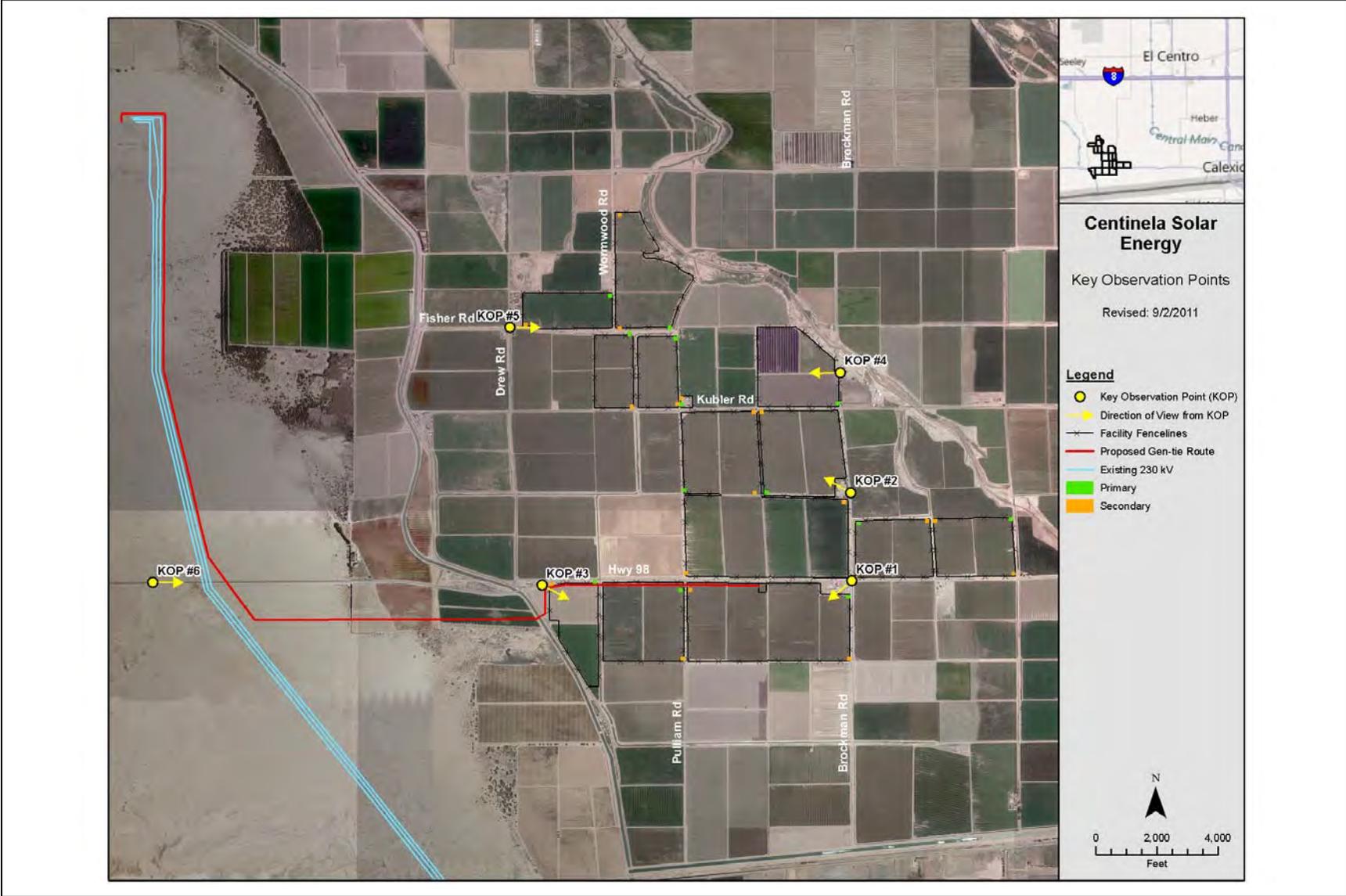
Based on a visibility analysis conducted by Ericsson-Grant, Inc., portions of the proposed CSE Facility would be visible from SR 98 and local roadways; the Gen-tie Line would also be visible from SR 98. KOPs used in this study were selected in consultation with BLM and Imperial County staff.

Based on the guidance provided in Manual H-8431 (BLM, 1986b), six KOPs were identified that would have views of the proposed CSE Facility site and Gen-tie Line. KOP #1, #2, #3, #4 and #5 are all located on private lands within the County. KOP #6 is located on federal land managed by the BLM. **Figure 3.1-1** provides a map showing the location of the KOPs. Existing views are provided in **Figures 3.1-2** through **3.1-7**. The KOPs for the proposed project are as follows.

KOP #1: Located at the northeast corner of the intersection of Brockman Road and State Route (SR) 98. KOP#1 provides a view to the southwest towards the proposed CSE Facility site with the vacant Mt. Signal Café in the foreground (**Figure 3.1-2**).

KOP #2: Located along Brockman Road across from the eastern boundary of the proposed CSE Facility. KOP#2 provides a view northwest towards the CSE Facility site with trees on the Brockman homestead (not a part of the project site) in the foreground (**Figure 3.1-3**).

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Source: CSE, 2011.

FIGURE 3.1-1
KEY OBSERVATION POINT MAP

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KOP#1 provides a view to the southwest towards the CSE Facility site from the northeast corner of the intersection of Brockman Road and SR 98. The vacant Mt. Signal Café is in the foreground. The CSE Facility site is visible in the distance at far right of photo.

Source: PhotoSims, 2011.

FIGURE 3.1-2
KOP #1 – NON-BLM LAND (IMPERIAL COUNTY)

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KOP #2 provides a view northwest towards the CSE Facility site across Brockman Road from the eastern boundary of the CSE Facility. Trees on the Brockman homestead (not a part of the project site) are visible in the foreground. The CSE Facility site is visible to the right of the trees.

Source: PhotoSims, 2011.

FIGURE 3.1-3
KOP #2 - NON-BLM LAND (IMPERIAL COUNTY)

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- KOP #3:** Located at the junction of SR 98 and Drew Road looking southeast from the western boundary of the proposed CSE Facility. KOP#3 provides a view of the Gen-tie Line segment on the western portion of the CSE Facility site (**Figure 3.1-4**).
- KOP #4:** Located at proposed secondary access point along Brockman Road north of Kubler Road on the east side of the CSE Facility site (**Figure 3.1-5**). KOP #4 provides a view west towards the proposed CSE Facility and PV solar field.
- KOP #5:** Located along Fisher Road east of Drew Road on the western boundary of the CSE Facility site. KOP #5 provides a view east along an existing dirt road toward the proposed CSE Facility site and PV solar field to the east (**Figure 3.1-6**).
- KOP #6:** Located along SR 98 on BLM land west of Utility Corridor N looking east. KOP #6 provides a view of BLM land on the northern and southern sides of SR 98 and a view of the existing transmission towers located within Utility Corridor N on BLM land (**Figure 3.1-7**).

CSE Facility Site located within Imperial County Private Lands

On February 10, 2011 and April 14, 2011, Ericsson-Grant Inc. conducted a visibility analysis of the project site which included taking photos from six different KOPs. **Figure 3.1-1** depicts the photo view point locations (KOPs) for the proposed project/Proposed Action. The visibility analysis shows that the CSE Facility site (located on private lands in Imperial County) is highly visible from adjacent roadways due to the flat topography of the site and surrounding area as depicted in KOP #2, KOP #3, and KOP #4. The CSE Facility would be slightly visible from KOP #1 and KOP #5 based on distance and intervening landscape (e.g. structures and vegetation). The transmission lines and towers along private property easements would be visible from KOP #3.

Gen-Tie Line Corridor within BLM Land

Figure 3.1-6 is a view of the existing transmission lines on BLM land that are visible from KOP #6. This photo depicts the current view conditions of the 230 kV transmission lines in Utility Corridor N from vehicles traveling along SR 98. This view represents the only portion of the project on BLM land that would be visible from more distant surrounding roads.

3.1.2.3 LIGHT AND GLARE

The proposed project site is located in undeveloped area Imperial County that is predominately used for agricultural production. In addition, large portions of this area of the County are vacant desert lands. Based on the undeveloped nature of the surrounding landscape, very little light is generated in on or in the vicinity of the project site. The primary source of light and glare in the area is from motor vehicles traveling on surrounding roadways. Roadways generate glare during daytime hours from the sun's reflection off of cars and paved surfaces. Likewise at night, vehicle headlights on surrounding roadways generate light and glare. Lighting is also located on the existing transmission lines to alert aircraft of potential hazards in their flight path.

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KOP#3 provides a view looking southeast from the junction of SR 98 and Drew Road toward the proposed Gen-tie Line segment on the western portion of the CSE Facility site. The Gen-tie Line would parallel the south side of SR 98.

Source: PhotoSims, 2011.

FIGURE 3.1-4
KOP #3 – NON-BLM LAND (IMPERIAL COUNTY)

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KOP#3 provides a view looking southeast from the junction of SR 98 and Drew Road toward the proposed Gen-tie Line segment on the western portion of the CSE Facility site. The Gen-tie Line would parallel the south side of SR 98.

Source: PhotoSims, 2011.

FIGURE 3.1-4
KOP #3 – NON-BLM LAND (IMPERIAL COUNTY)

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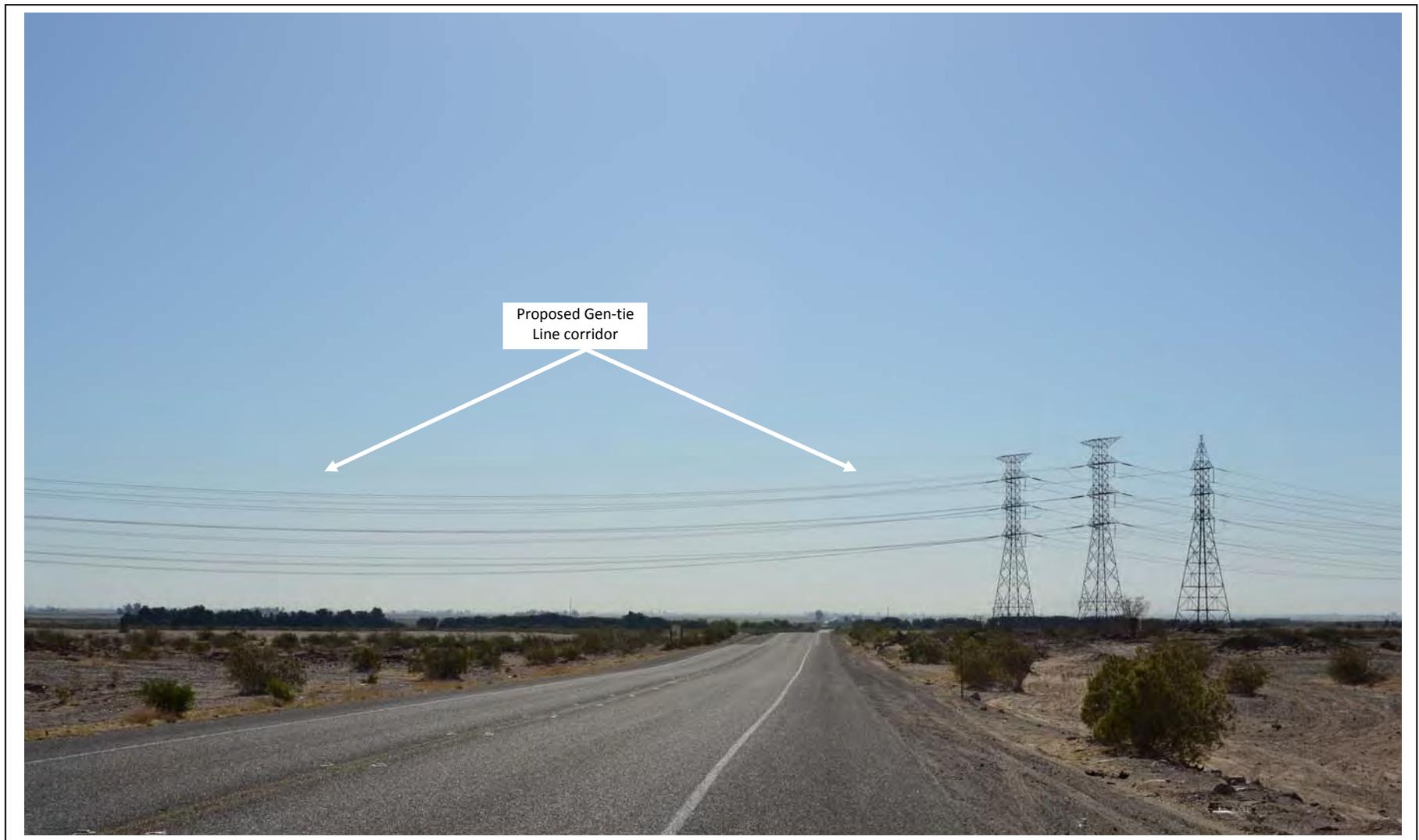


KOP #5 is located along Fisher Road east of Drew Road on the western boundary of the CSE Facility site. This view looks east along an existing dirt road toward the proposed CSE Facility site and PV solar field (center of photo).

Source: PhotoSims, 2011.

FIGURE 3.1-6
KOP #5 – NON-BLM LAND (IMPERIAL COUNTY)

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KOP #6 provides a view east from the west side of Utility Corridor N along SR 98. The view shows BLM land on the northern and southern sides of SR 98 and the existing 230-kV transmission towers in Utility Corridor N. The proposed Gen-tie Line would be within the same corridor.

Source: PhotoSims, 2011.

FIGURE 3.1-7
KOP #6 – BLM LAND

SECTION 3.2

LAND USE AND SPECIAL DESIGNATIONS

3.2 LAND USE AND SPECIAL DESIGNATIONS

This section describes the land use plans, policies, regulations and federal special designations that apply to the proposed project/Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Undercrossing, and Alternative 4 - No Action/No Project Alternative. The CSE Facility site is located in Imperial County on privately held lands. Applicable local land use plans include the County's General Plan and Land Use Ordinance, and the Airport Land Use Compatibility Plan (ALUCP). Approximately 4.25 miles of the Gen-tie Line aligns through lands managed by the BLM encroaching into an Area of Critical Environmental Concern. Applicable federal land use plans include *Title V of the Federal Land Policy and Management Act*, *California Desert Conservation Area Plan* (BLM, 1980), the *Yuha Desert Management Plan* (BLM, 1985), and *Flat-tailed Horned Lizard Rangewide Management Strategy* (ICC, 2003).

3.2.1 REGULATORY FRAMEWORK

3.2.1.1 FEDERAL

A. Bureau of Land Management (BLM)

The following discussion describes the plans applicable to the proposed project/Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Undercrossing, and Alternative 4 - No Action/No Project Alternative.

Federal Land Policy and Management Act, 1976 as Amended

The United States Congress passed the Federal Land Policy and Management Act (FLPMA) in 1976. Title V, "Rights-of-Way" of the FLPMA establishes public land policy, guidelines for administration, provides for management, protection, development, and enhancement of public lands, and provides the BLM authorization to grant right-of-way. Authorization of systems for generation, transmission, and distribution of electric energy is addressed in Section 501(4) of Title V. In addition, Section 503 specifically addresses "Right of Way Corridors" and requires common right-of-ways "to the extent practical". FLPMA, Title V, Section 501(a)(6) states, "The Secretary, with respect to the public lands (including public lands, as defined in section 103(e) of this Act, which are reserved from entry pursuant to section 24 of the Federal Power Act (16 U.S.C. 818)) [P.L. 102-486, 1992] and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System;" (BLM, 2001, p. 35).

The Applicant is requesting a grant of right-of-way approval from the BLM for the portion of the Gen-tie Line on land under the jurisdiction of the BLM.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

Section 601 of the FLPMA required preparation of a long-range plan for the California Desert Conservation Area. The California Desert Conservation Area (CDCA) Plan was adopted in 1980 to provide for the use of public lands and resources of the California Desert Conservation Area in a manner which

3.2 LAND USE AND SPECIAL DESIGNATIONS

enhances wherever possible and, which does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert which includes the Mojave Desert, the Sonoran Desert and a small portion of the Great Basin Desert. The 12 million acres of public lands administered by the BLM make-up approximately half of the CDCA.

The CDCA Plan includes 12 elements: Cultural Resources; Native American; Wildlife; Vegetation; Wilderness; Wild Horse and Burro; Livestock Grazing; Recreation; Motorized Vehicle Access; Geology, Energy and Mineral Resources; Energy Production and Utility Corridors; and Land-Tenure Adjustment. Each of the elements contains goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, and is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. In addition, each element provides both a desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

Chapter 2 of the CDCA Plan identifies four multiple-use classes which are used to describe a different type and level or degree of use which is permitted within that particular geographic area. The four multiple-use classes are defined below (BLM, 1980, p. 13):

Multiple-Use Class C

Multiple-Use Class C has two purposes. First, it shows those areas which are being “preliminarily recommended” as suitable for wilderness designation by Congress. This process is fully explained in the Wilderness Element in this Plan. Second, it will be used in the future to show those areas formally designated as wilderness by Congress. The Class C guidelines (Table 1) are different from the guidelines for other classes. They summarize the kinds of management likely to be used in these areas in the CDCA when and if they are formally designated wilderness by Congress.

Multiple-Use Class L

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.

Multiple-Use Class M

Multiple-Use Class M (Moderate Use) is based upon a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources which permitted uses may cause.

Multiple-Use Class I

Multiple-Use Class I is an “intensive use” class. Its purpose is to provide for concentrated use of lands and resources to meet human needs. Reasonable protection will be provided for sensitive natural and cultural values. Mitigation of impacts on resources and rehabilitation of impacted areas will occur insofar as possible.

3.2 LAND USE AND SPECIAL DESIGNATIONS

The Proposed Action is included in the “Land Use Activities” category of Transmission Lines as identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan. As noted in Table 1, under Multiple-Use Class L, M and I, “New...electric transmission facilities...may be allowed only within designated corridors (BLM, 1980, p. 15).

The proposed project is also located in the Yuha Basin Area of Critical Environmental Concern (ACEC) as mapped in the CDCA Plan (BLM, 1980). ACECs are defined in the CDCA Plan as follows:

“An area within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.” (BLM, 1980, p. 101)

The CDCA Plan provides the following management goals for ACECs:

- (1) Identify and protect the significant natural and cultural resources requiring special management attention found on the BLM-administered lands in the CDCA.
- (2) Provide for other uses in the designated areas, compatible with the protection and enhancement of the significant natural and cultural resources.
- (3) Systematically monitor the preservation of the significant natural and cultural resources on BLM administered lands, and the compatibility of other allowed uses with these resources.

Utility Corridor N

Planning corridors are identified in the Energy Production and Utilities Corridor Element. Sixteen planning corridors are identified on Map 16 of the CDCA Plan. Planning corridors are a tool for guiding planning and environmental assessment work required when a right-of-way grant is requested. Utilities that do not conform to the adopted corridor system require a Plan Amendment. The following types of utilities are allowed in planning corridors: new electrical transmission towers and cables of 161-kV-kV (kilovolt) or above; all pipelines with diameters greater than twelve inches; coaxial cables for interstate communications; and major aqueducts or canals for interbasin transfer of water.

Joint use planning corridors vary in width from two to five miles. The five-mile standard is used in cases where there are no existing facilities and no engineering or environmental data to define a narrower corridor. Likewise, a five-mile width is used where many facilities merge to ensure adequate space for system integrity and flexibility. The corridors are primarily oriented east-west, with a number of entry points to the Desert along the Nevada-Arizona border and a number of exit points into the Los Angeles basin or the San Joaquin Valley (BLM, 1980, p. 116).

The Southwest Powerlink 500-kV-kV transmission line, an Imperial Irrigation District 230-kV line and the La Rosita 230-kV transmission line all align through Corridor N (BLM, 1985, p. 20). The proposed Gen-Tie Line would extend through Corridor N. A Plan Amendment is not needed but the Applicant has submitted an application for a grant of right-of-way from the BLM.

Yuha Desert Management Plan

The Yuha Desert Management Plan (YDMP) reexamined previous management efforts occurring in the Yuha Desert (BLM, 1985). The Yuha Desert Study Area includes the Yuha Basin ACEC. The YDMP identifies goals, planned action as and implementation methods to address resources in the area

3.2 LAND USE AND SPECIAL DESIGNATIONS

including wildlife and vegetation, cultural resources, geology, lands and recreation taking into consideration previous planning efforts and outcomes. The primary goal of the YDMP is to protect sensitive resource values while permitting compatible mineral, energy and recreation related activities. The proposed project is located within the YDMP.

Flat-tailed Horned Lizard Rangewide Management Strategy

The Flat-tailed Horned Lizard Rangewide Management Strategy (ICC, 2003) (hereafter referred to as the Strategy) was originally developed in 1997 and revised in 2003 by the Interagency Coordinating Committee (ICC). The ICC signatory members who participated in the writing and discussion of the 2003 revision included various state and federal agencies (Anza-Borrrego State Park, Arizona Game and Fish [Yuma], Ocotillo Wells State Vehicular Recreation Area, U.S. Bureau of Land Management [El Centro, Palm Springs, and Yuma], U.S. Bureau of Reclamation [Yuma], U.S. Fish and Wildlife Service [City of Carlsbad and Phoenix], U.S. Marine Corps Air Station [Yuma], U.S. Naval Air Facility (El Centro), and U.S. Navy SW Division [San Diego]).

The purpose of the Strategy is to provide guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards (FTHLs) in each of the five Management Areas (MAs) within the CDCA Plan in perpetuity. The FTHL is a BLM sensitive species and is found only in southwestern Arizona, southeastern California, and adjacent portions of Sonora and Baja California Norte, Mexico.

The United States Fish and Wildlife Service (USFWS) proposed the species for listing as threatened by the U.S. Fish and Wildlife Service (USFWS) on November 29, 1993. The proposed listing was based on initial evidence suggesting that habitat loss within the perimeter of the range of the species was causing a decline in specific FTHL habitat. Subsequently, the USFWS withdrew its proposed listing on January 23, 2003, based in part on protections identified in the Strategy. The proposed listing has been reinstated and withdrawn several times since January 23, 2003. On March 14, 2011, after completing an analysis of the conservation status of FTHL, the USFWS announced that the species does not need protection under the Endangered Species Act (ESA). This determination was made because threats to the species as identified in the 1993 proposed rule are not as significant as earlier believed and available data do not indicate the species is likely to become endangered in the foreseeable future throughout all or a significant portion of its range (USFWS, 2011).

The Strategy encourages surface-disturbing projects to be located outside of FTHL MAs whenever possible. However, it does not disallow surface-disturbing projects from occurring in a MA. If no alternative to location for a project exists outside an MA, the project should attempt to locate in a previously disturbed area or in an area with poor habitat quality inside the MA. In addition, construction should be timed to minimize mortality.

New right-of-ways may be permitted only along the boundaries of an MA, and then, only if impacts can be mitigated to avoid long-term effects on FTHLs. Rights-of-way may be permitted within the boundaries of an MA with mitigation incorporated. The cumulative disturbance per MA may not exceed 1%. Mitigation ratios can be as high as 6:1.

Based on review of “Figure 7 – Yuha Desert Management Area” of this Strategy, the Gen-tie Line corridor is located within the Yuha Desert Management Area for the FTHL. Several planning actions have been developed as recommendations so that signatory agencies can ensure they achieve the goal of maintaining a “long-term stable” population within each MA is achieved. Projects that impact FTHL or their habitat are required to implement mitigation measures or pay compensation to minimize impacts.

3.2 LAND USE AND SPECIAL DESIGNATIONS

The BLM will obtain a conference opinion from the USFWS for FTHL. The Applicant has also proposed mitigation measures to address FTHL (refer to Table 2.0-6 in Chapter 2.0).

Federal Aviation Regulations Part 77

The FAA regulates aviation at regional, public, private, and military airports. The Federal Aviation Administration (FAA) requires notification of structures to be constructed in excess of 200 feet in all areas (and, potentially, of structures less than 200 feet, depending on proximity of the proposed structure to public use airports). The U.S. Department of Transportation and California Department of Transportation also require the applicant to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace (49 CFR Part 77.17). Any structure that would constitute a hazard to air navigation, as defined in FAA Part 77, requires issuance of a permit from the California Department of Transportation's Aeronautics Program. If the FAA aeronautical study determines that the structure has no impact on air navigation, a permit is not required.

Part 77, Subpart C, of the Federal Aviation Regulations limits the heights of structures, trees, and other objects in the vicinity of an airport within Compatibility Zones C and D to less than 35 feet above the level of the ground. Proponents of a project which may exceed a Part 77 limit must notify the Federal Aviation Administration as required. Currently, there are no such locations near the existing airports in Imperial County. As discussed below, the Project site is located approximately nine miles south of the Naval Air Facility (NAF), El Centro. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the Airport Land Use Compatibility Plan (ALUCP), the project site is not located within any of the compatibility zones as identified in the ALUCP. Therefore, Part 77 would not apply to the Proposed Action.

3.2.1.2 LOCAL

A. Imperial County General Plan

The purpose of the Imperial County General Plan is to guide growth throughout the County. Urban development is directed to areas where public infrastructure can be readily extended and areas with limited health and safety hazards. Likewise development should avoid natural, cultural, and economic resources.

The Imperial County General Plan includes ten elements: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; Geothermal/Alternative Energy and Transmission; Water; and Parks and Recreation. These elements satisfy the California Government Code requirements for general plan elements. Each element includes goals, objectives, and implementing policies and action programs.

The General Plan land use designation Agriculture applies to the CSE facility and approximately 1.25 miles of the Gen-tie Line corridor. The Land Use Element of the Imperial County General Plan defines the "Agriculture" designation as follows:

This category is intended to preserve lands for agricultural production and related industries including aquaculture (fish farms), ranging from light to heavy agriculture. Packing and processing of agricultural products may also be allowed in certain areas, and other uses necessary or supportive of agriculture. The Agriculture category includes

3.2 LAND USE AND SPECIAL DESIGNATIONS

most of the central irrigated area known as the Imperial Valley, the Bard/Winterhaven Valley and the south end of the Palo Verde Valley.

Where this designation is applied, agriculture shall be promoted as the principal and dominant use to which all other uses shall be subordinate. Where questions of land use compatibility arise, the burden of proof shall be on the non-agricultural use to clearly demonstrate that an existing or proposed use does not conflict with agricultural operations and will not result in the premature elimination of such agricultural operations. No use should be permitted that would have a significant adverse effect on agricultural production, including food and fiber production, horticulture, floriculture, or animal husbandry. All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category.

No land shall be removed from the Agriculture category except for annexation to a city, where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process (Imperial County, 2008, p. 48).

Table 3.2-1 analyzes the consistency of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Undercrossing, and Alternative 4 - No Action/No Project Alternative with the applicable policies relating to land use from the Imperial County General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

A detailed analysis of the project’s consistency with the General Plan goals, objectives and policies regarding Agriculture is provided in Section 3.9, Agricultural Resources of this EIR/EA.

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Conservation and Open Space Element		
Conservation of Environmental Resources for Future Generations		
Objective 1.2 Encourage only those uses and activities that are compatible with the fragile desert, aquatic, and marshland environment.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are compatible with the desert environment. The Applicant has submitted a right-of-way application to the BLM for the approximately 4.25 mile segment of the Gen-tie Line of the Proposed Action located on BLM lands. For most of its length, the Gen-tie Line is component of the Proposed Action is a

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		corridor adjacent to existing 230-kV electric lines. The Gen-tie Line alignment for the Proposed Action, Alternatives 1, 2 and 3 (refer to Figure 2.0-3B and Figures 2.0-22 through 2.0-25 , and Figure 2.0-37 in Chapter 2.0) would be located in Utility Corridor N. This designated corridor allows development of utilities within a defined area and confines utilities to a specific area in order to protect the overall desert environment. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not result in development in the desert environment. Therefore, the Proposed Action, Alternatives 1, 2 and 3 are all consistent with this objective.
Objective 1.5 Provide for the most beneficial use of land based upon recognition of natural constraints.	Yes	The Proposed Action as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers or 230-kV Line Looping and Undercrossing is a beneficial use of the project site. A list of short-term and long-term beneficial uses is provided in Section 1.7 of Chapter 1.0, Introduction. The Proposed Action and Alternatives 1, 2 and 3 would provide a beneficial use of land by creating local jobs during construction and assisting with more stable energy costs consistent with this objective. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses which is also a beneficial use of land consistent with this objective.
Objective 1.6 Ensure the conservation, development and utilization of the County's natural resources.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would result in conversion of agricultural lands in order to construct a solar facility. The Proposed Action and Alternatives 1, 2 and 3 would forfeit one resource (Prime Farmland, Farmland of Statewide Importance and Unique Farmland) for another (generation of solar energy). However, the conversion would be temporary as the Applicant intends to submit an

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Agricultural Reclamation Plan to the Imperial County Department of Planning and Development Services detailing procedures for returning the CSE Facility site to a condition to support agricultural production at the end of the useful life of the project or the expiration of the Conditional Use Permit. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural. Therefore, the Proposed Action, Alternatives 1, 2 and 3 are all consistent with this objective.
Conservation of Energy Sources		
Goal 6: The County shall seek to achieve maximum conservation practices and maximum development of renewable alternative sources of energy.	Yes	The Proposed Action as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all include a CSE Facility on county lands that are currently highly disturbed by human activity (agriculture) and would support the county’s goal of developing alternative energy resources, as well as the State’s Renewable Portfolio Standard (RPS) goals. Therefore, the Proposed Action and Alternatives 1, 2 and 3 would achieve, and be consistent with, this county goal. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not support renewable energy.
Objective 6.6 Encourage compatibility with national and State energy goals and city and community general plans.	Yes	As a large-scale solar energy facility, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would coincide with the county’s goal of developing alternative energy and would comply with federal and state mandates for renewable energy development. Therefore, the Proposed Action and Alternatives 1, 2 and 3 would be consistent with this county objective. Alternative 4 – No Action/No Project would result in continued use of the project site for agricultural uses and would not be consistent with this objective.

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Land Use Element		
Regional Vision		
<p>Objective 3.6 Recognize and coordinate planning activities as applicable with the Bureau of Land Management (BLM), and the California Desert Conservation Plan.</p>	Yes	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are consistent with the California Desert Conservation Plan, because the proposed Gen-tie Line corridor is located entirely within the designated Utility Corridor N (refer to Figure 2.0-21 in Chapter 2.0). The proposed Gen-tie Line is considered an allowed use as it is located within a designated utility corridor, thereby minimizing to the extent possible any additional disturbance to desert lands. Alternative 3 would result in the net elimination of approximately 11 proposed new tower structures on BLM-managed native desert lands north of SR 98. Likewise, Alternative 1 would reduce disturbance of BLM land by using double circuit towers. The Proposed Action and Alternatives 1 and 2 would require approval by the BLM of a grant of right-of-way in order to allow the construction and operation of the proposed Gen-tie Line on BLM land. The Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective as the Applicant is coordinating with the BLM. Alternative 4 – No Action/No Project would not require coordination with the BLM.</p>
Public Facilities		
<p>Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.</p>	Yes	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be consistent with the County's Land Use Ordinance which allows "major facilities relating to the generation and transmission of electrical energy" with a Conditional Use Permit (Imperial County, 2009). The Applicant has requested a Conditional Use Permit from the County (CUP10-0017). Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective.</p> <p>The Applicant is also required to obtain a grant</p>

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		of right-of-way from the BLM to construct and operate transmission lines on BLM land. No development of electricity, gas, and telecommunications facilities would occur in association with Alternative 4 – No Action/No Project.
Objective 8.9 Require necessary public utility rights-of-way when appropriate.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are consistent with this objective, as the project has requested a grant of right-of-way from the BLM (Serial No. CACA 52092) for the Gen-tie Line segment extending from the CSE Facility through BLM land. No development would occur in association with Alternative 4 – No Action/No Project and no right-of-way would be required.
Protection of Environmental Resources		
Objective 9.6 Incorporate the strategies of the Imperial County Air Quality Attainment Plan (AQAP) in land use planning.	Yes	The Applicant will minimize dust emissions during construction by implementing all measures necessary for compliance with the applicable provisions of Imperial County Air Pollution Control District (ICAPCD) Rules 800, 801, 802, 803, 804, and 805. The applicant will also prepare a dust control plan and obtain permit from the Imperial County Air Pollution Control District prior to start of construction plan. During operations and maintenance, dust would be controlled by limiting vehicle speeds on unpaved roads. Therefore, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be consistent with this objective. No development would occur in association with Alternative 4 – No Action/No Project.
Circulation and Scenic Highways Element		
Safe, Convenient, and Efficient Transportation System		
Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads.	Yes	A traffic analysis has been prepared for the Proposed Action. As discussed in Section 4.3 Transportation/Circulation of this EIR/EA, cumulative impacts would occur at two intersections with implementation of the

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Proposed Action. Alternative 1 - Double Circuit Gen-tie Line Structures would be expected to result in similar impacts to traffic. However, traffic impacts associated with Alternative 2 – Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be similar but slightly lower due to the reduced amount of construction required for these alternatives. Alternative 4 – No Action/No Project would have no impact on traffic. The Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective.
Noise Element		
Noise Environment		
Objective 1.3 Control noise levels at the source where feasible.	Yes	A noise assessment was prepared for the Proposed Action that examined construction and operational noise. As discussed in EIR/EA Section 4.8, the Proposed Action will meet the County’s noise standards and no impacts are anticipated. Alternative 1 - Double Circuit Gen-tie Line Structures would be anticipated to result in similar noise levels as the Proposed Action. Alternative 2 - Reduced CSE Facility Site, as a smaller project would be anticipated to have slightly lower noise levels than the Proposed Action. Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing may have slightly less short-term noise because 11 fewer towers would be constructed on BLM land compared to the Proposed Action. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective. Alternative 4 – No Action/No Project would have no impact on noise levels.
Project/Land Use Planning		
Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.		As discussed in EIR/EA Section 4.8, the Proposed Action will meet the County’s noise standard. Likewise, Alternative 1 - Double Circuit Gen-tie Line Structures would be anticipated to result in similar noise levels within the County’s noise standards. Alternative 2 - Reduced CSE Facility Site, as a smaller project would be anticipated to have even

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		lower noise levels than the Proposed Action. Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing is anticipated to result in the same noise levels as the Proposed Action during operations. Therefore, the Proposed Action, Alternatives 1 2 and 3 are consistent with this goal. Alternative 4 – No Action/No Project would result in continued agricultural operations on the project site with no anticipated changes in noise levels from existing conditions.
Long Range Planning		
Goal 3: Provide for environmental noise analysis inclusion in long range planning activities which affect the County.	Yes	A noise assessment has been prepared for the Proposed Action which considered the operational, or long-range, noise generated by the project. As discussed in EIR/EA Section 4.8, the Proposed Action would meet the County’s noise standard. Likewise, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all be anticipated to result in similar noise levels and be within the County’s noise standards. Therefore, the Proposed Action, Alternatives 1, 2 and 3 are consistent with this goal. Alternative 4 – No Action/No Project would result in continued agricultural operations and is not subject to a noise analysis.
Seismic and Public Safety Element		
Land Use Planning and Public Safety		
Objective 1.1 Ensure that data on geological hazards is incorporated into the land use review process, and future development process.	Yes	A preliminary geotechnical investigation was prepared for the Proposed Action. Since Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be located on the same parcels, similar geotechnical issues would occur for all alternatives. Geotechnical issues are identified and discussed in Section 4.6 of this EIR/EA. Mitigations and recommendations are provided in the geotechnical report and incorporated into this EIR/EA. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective. Alternative 4 –

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		No Action/No Project does not include any development that would be subject to geological hazards.
Objective 1.7 Require developers to provide information related to geologic and seismic hazards when siting a Proposed Action.	Yes	The preliminary geotechnical report prepared for the Proposed Action identifies potential geologic and seismic hazards. Since all of the alternatives would be located on the same parcels, the hazards would be similar for all alternatives. The Proposed Action, as well as Alternatives 1, 2 and 3, would be required to comply with applicable state building codes as well as mitigations and recommendations provided in the geotechnical report and incorporated into Section 4.6 of this EIR/EA. Therefore the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective. Alternative 4 – No Action/No Project involves no development and would not introduce structure vulnerable to geologic and seismic hazards.
Conservation and Open Space Element		
Preservation of Biological Resources		
Goal 2: The County will preserve the integrity, function productivity, and long-term viability of environmentally sensitive habitats, and plant and animal species.	Yes	The site of the Proposed Action as well as Alternative 1 - Double Circuit Gen-tie Line Structures,, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all be located on previously disturbed agricultural land located in Imperial County. As discussed in Section 4.12, Biological Resources of this EIR/EA, biological resources located habitats, and plant and animal species on the project site could be impacted by the project. However, mitigation measures BIO-1 through BIO-15 are identified to address these impacts. Alternative 4 – No Action/No Project involves no development that would impact long-term viability of environmentally sensitive habitats, plant and animal species. Therefore, the Proposed Action, and Alternatives 1, 2 3 and 4 are consistent with this objective.
Conservation of Environmental Resources for Future Generations		
Objective 1.2 Encourage only those uses and activities that are compatible with the fragile desert, aquatic, and marshland	Yes	The proposed Project Action as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
environment.		Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are compatible with the agricultural and desert environment surrounding the project site as identified in Section 4.2 of this EA/EIR. Alternative 4 – No Action/No Project involves no development and existing agricultural operations would continue. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.
Objective 1.5 Provide for the most beneficial use of land based upon recognition of natural constraints.	Yes	The Proposed Action, as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing represents a beneficial use that recognizes the site's potential for renewable energy in the form of solar PV. Lists of short-term and long-term beneficial uses are provided in Section 1.9 of Chapter 1.0. The Proposed Action and Alternatives 1, 2 and 3 would also significantly reduce the water demand that would otherwise be used for irrigation of the project site. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production which is a beneficial use of Prime Farmland, Farmland of Statewide Importance and Unique Farmland. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.
Objective 1.6 Ensure the conservation, development and utilization of the County's natural resources.	Yes	The Proposed Action as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would result in conversion of agricultural lands in order to construct a solar facility. While the project would forfeit one resource (Prime Farmland, Farmland of Statewide Importance and Unique Farmland) for another (generation of solar energy), the conversion would be temporary. The conversion would be temporary as the Applicant intends to submit an Agricultural Reclamation Plan to the Imperial County Department of Planning and

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		<p>Development Services detailing procedures for returning the CSE Facility site to a condition to support agricultural production at the end of the useful life of the project or the expiration of the Conditional Use Permit.</p> <p>Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production which is a beneficial use of Prime Farmland, Farmland of Statewide Importance and Unique Farmland. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.</p>
Preservation of Cultural Resources		
<p>Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.</p>	Yes	<p>A cultural resources survey was conducted for the Proposed Action. As discussed in EIR/EA Section 4.7, the APE for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures and Alternative 2 - Reduced CSE Facility Site included 27 sites with potential eligibility for the National Register of Historic Places. Of these, only one was determined eligible, 11 were recommended as eligible and 7 would require further evaluation. Sixteen sites with potential eligibility for the National Register of Historic Places were located in the APE for Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Of these, 1 was determined eligible, 2 were identified as not eligible, 6 were recommended eligible and 7 would require further evaluation for eligibility. Mitigation Measures CR1 through CR6 would reduce potential impacts to these resources to less than significant. Alternative 4 would not cause impacts to cultural resources Therefore, Alternative 1, 2, 3 and 4 are consistent with this objective.</p>
Preservation of Agricultural Lands		
<p>Goal 4: The County will actively conserve and maintain contiguous farmlands and prime soil areas to maintain economic vitality and the unique lifestyle of the Imperial Valley.</p>	No	<p>The Proposed Action, as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all be located on the same parcels and result in conversion of contiguous parcels of farmland. Alternative 2 would actually result in</p>

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		fragmentation of contiguous farmland by preserving three parcels that are under Williamson Act Contract. Only Alternative 4 – No Action/No Project would be consistent with this goal since the site would remain in its current condition as agricultural land under this alternative. Please refer to EIR/EA Sections 3.9 and 4.9 Agricultural Resources, which provide a detailed analysis of the project’s consistency with applicable agricultural goals and objectives.
Conservation of Energy Sources		
Goal 6: The County shall seek to achieve maximum conservation practices and maximum development of renewable alternative sources of energy.	Yes	As a solar facility, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this goal. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and is therefore not consistent with this goal.
Objective 6.2 Encourage the utilization of alternative passive and renewable energy resources.	Yes	As a solar facility, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are consistent with this goal. Once implemented, the Proposed Action and Alternatives 1, 2 and 3 would create solar energy that would be conveyed to the Imperial Valley Substation. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and is therefore not consistent with this policy.
Objective 6.6 Encourage compatibility with National and State energy goals and city and community general plans.	Yes	The Proposed Action is consistent with California Public Utilities Code § 399.11 et seq., “Increasing the Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix” by generating up to 275-MW of power for SDG&E. This would help fulfill in part California’s electric utility companies’ requirement to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. Likewise, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are also consistent with the mandate to generate

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		renewable energy. Therefore, the Proposed Action and Alternatives 1, 2 and 3 would be consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and is therefore not consistent with this policy.
Geothermal/Alternative Energy and Transmission Element		
Agricultural Lands and Biological Resources		
Objective 2.3 Utilize existing easements or right-of-way and follow field boundaries for electric and liquid transmission lines.		<p>The Gen-tie Line of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures and Alternative 2 - Reduced CSE Facility Site and would extend approximately 1.5 miles west through the CSE Facility site then extend across the West Side Main Canal and continue approximately 1.25 miles through a 100 foot wide easement on private lands south of SR 98. The remaining approximately 4.25 miles extends through BLM land, first west then north, to connect with the Imperial Valley Substation (refer to Figure 2.0-3 in Chapter 2.0). Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing includes two 230-kV electric lines approximately 2.5 miles long extending west from private property through BLM land (approximately 1.2 miles of this segment would be located on BLM land). An approximately 1.4-mile-long 230-kV electric line would be located within the CSE Facility site on private land on new single or double circuit towers.</p> <p>The portion of the Gen-tie Line for the Proposed Action and Alternatives 1, 2 and 3 is on BLM land within Utility Corridor N. Therefore, the majority of the proposed Gen-tie Line would use an existing utility right-of-way and the Proposed Action as well as Alternatives 1, 2 and 3 would be consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and is therefore not consistent with this policy.</p>
Objective 2.4 Carefully analyze the potential impacts on agricultural and biological resources from each project.	Yes	The Proposed Action has been analyzed for impacts to agricultural and biological resources as evidenced through the preparation of a LESA Model and biological studies. Please refer to

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		EIR/EA Section 4.9, Agricultural Resources, which discusses the potential impacts to agricultural lands and Section 4.12, Biological Resources, which discusses the potential impacts to sensitive species. Similar impacts to agricultural and biological resources would occur in association with Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing as they would be located on the same parcels of land (with approximately 335 fewer acres disturbed in association with Alternative 2). Therefore, the Proposed Action and Alternatives 1, 2 and 3 would be consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and would have no impact on agricultural or biological resources.
Objective 2.6 Encourage/require alternative resource production to be in energy zoned areas to minimize off-site impacts and lessen need for more transmission corridors.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing include a 1.25 easement through private lands that aligns with Utility Corridor N on BLM land. The majority of the length of the Gen-tie Line would be located within this existing right-of-way. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural production and would have no impact transmission corridors.
Locating Transmission Line Corridors		
Goal 5: When planning and designing transmission lines, the County will consider impacts to agricultural lands, wildlife, and the natural desert landscape.	Yes	The portion of the Gen-tie Line on private lands within Imperial County would be located within an easement through agricultural lands. A very minor amount of permanent disturbance would be required to locate the Gen-tie Line in this area. The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		consistent with this goal. Please refer to EIR/EA Section 4.9 Agricultural Resources and 4.12 Biological Resources, which discuss the potential impacts. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and no transmission lines would be constructed.
Objective 5.1 Require all major transmission lines to be located in designated federal and IID corridors or other energy facility corridors such as those owned by investor owned utilities and merchant power companies.	Yes	For most of its length, the Gen-tie Line is proposed as a right-of-way adjacent to existing 230-kV electric lines within Utility Corridor N. The Applicant has applied for a grant of right-of-way (Serial No. CACA 52092) approval from the BLM. Therefore, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and no transmission lines would be constructed.
Objective 5.3 Construct transmission lines in accordance with this Element.	Yes	The proposed Gen-tie Line is consistent with the Geothermal/Alternative Energy and Transmission Element’s goals and objectives related to transmission line construction. The same would be true for Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and no transmission lines would be constructed.
Objective 5.4 Design transmission lines to be joint use with transportation and other infrastructure corridors within or external to the County	Yes	As described in the analysis for Objective 2.6 and Objective 5.1, above, the majority of the length of the Gen-tie Line would occur within Utility Corridor N. Therefore, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be consistent with this objective. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and no

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		transmission lines would be constructed.

B. County of Imperial Land Use Ordinance, Title (9)

The County of Imperial Land Use Ordinance (Title 9) provides the physical land use planning criteria, development standards, and zoning regulations for development in the unincorporated areas of the County.

The purpose of the Land Use Ordinance is to protect the public health, safety and welfare, to provide for orderly development, classify, regulate and where applicable segregate land uses and building uses; to regulate the height and size of buildings; to regulate the area of yards and other open spaces and buildings; to regulate the density of population; and, to provide the economic and social advantages resulting from orderly planned land uses and resources.

As depicted in **Figure 3.2-1**, the CSE Facility site is zoned General Agriculture (A-2), General Agriculture Rural (A-2-R) and Heavy Agriculture (A-3). The permanent easement on private lands is zoned A-2 and S-1 (Open Space/Recreation). The portion of the Gen-tie Line on BLM land is identified as Government/Special (G-S). **Table 3.2-2** summarizes the zones on the project site.

Uses in the A-2, A-2-R and A-3 zoning designations are limited primarily to agricultural related uses and agricultural activities that are compatible with agricultural uses. Sections 90508.02 and 90509.02 of the Land Use Ordinance lists many uses that are permitted in the A-2, A-2-R and A-3 zones, but that require a conditional use permit (CUP) which are identified in **Table 3.2-2**. Sections 90508.07 and 90509.07 of the Land Use Ordinance limit non-residential structure height to 120-feet within the A-2, A-2-R and A-3 zones. Specifically, Sections 90508.07(C) and 90509.07(C) state, “Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and shall meet ALUC Plan requirements.” The exact height of each Gen-tie Line tower structure will be governed by topography and safety requirements for conductor clearances. Structures on private land will range from approximately 100 to 130 feet above ground and structures on BLM land will range in height from approximately 100 to 150 feet above ground. A variance is required in order to exceed the height limit for electric line towers on private lands subject to Imperial County zoning regulation.

3.2 LAND USE AND SPECIAL DESIGNATIONS

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3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-2
SUMMARY OF PROJECT SITE ZONING**

Zoning	Purpose	Uses Allowed with a CUP
General Agriculture (A-2) [40 Acre minimum]	To designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses.	<ul style="list-style-type: none"> • Electrical generation plants (less than 50-MW) • Electrical Power Generating Plant excluding nuclear or coal fired, • Electrical substations in an electrical transmission system (500-kV/230-kV/161-kV). • Major facilities relating to the generation and transmission of electrical energy, provided such facilities are not, under State or Federal law, to be approved exclusively by an agency or agencies of the State and/or Federal governments and provided that such facilities shall be approved subsequent to coordination and review with the Imperial Irrigation District for electrical matters.
General Agriculture Rural (A-2-R)	To designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses.	Same as identified for A-2
Heavy Agriculture (A-3)	To designate areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses	Major facilities relating to the generation and transmission of electrical energy, provided such facilities are not, under state or federal law, to be approved exclusively by an agency or agencies of the state and/or federal governments and provided that such facilities shall be approved subsequent to coordination and review with the Imperial Irrigation District for electrical matters.
Open Space/Recreation (S-1)	To designate areas that recognize the unique Open Space and Recreational character of Imperial County including the deserts, mountains and water front areas. Primarily the S-1 Zone is characterized by low intensity human utilization and small scale recreation related uses. Any new subdivision in the S-1 zone will require all necessary infrastructure including potable water, sewer and roads to County standards.	Electrical generation plants (less than 50-MW) Facilities for the transmission of electrical energy (100-200-kV) Electrical substations in an electrical transmission system (500-kV/230-kV/161-kV)
Government/Special	To designate areas that allow for the	Not Applicable

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-2
SUMMARY OF PROJECT SITE ZONING**

Zoning	Purpose	Uses Allowed with a CUP
(G-S)	construction, development and operation of governmental facilities and special public facilities, primarily this zone allows for all types of government owned and/or government operated facilities, be they office or other uses. It also allows for special public uses such as security facilities, jails, solid and/or hazardous wastes facilities and other similar special public benefit uses.	

Source: County of Imperial, 1998.

C. Adjacent Areas Land Use Designations

Lands surrounding the CSE Facility site are predominantly used for agricultural production. There are a few smaller parcels with single-family homes adjacent to some CSE Facility parcels as well as farm-support buildings and utilities such as electric lines and cellular towers in the area. The Gen-tie Line will cross both privately owned agricultural property and desert scrub habitat on BLM-managed lands that generally comprise the eastern boundary of the Yuha Basin. The Yuha Basin is a BLM Area of Critical Environmental Concern (ACEC) that is managed to protect sensitive cultural and wildlife resources and to allow for certain compatible public uses such as camping in designated areas. The Gen-tie Line route is located entirely within Utility Corridor N as identified on Map 16 of the CDCA Plan. Significant electrical infrastructure is located on the BLM land within Corridor N, including the Imperial Valley Substation, six 230-kV electric lines and two 500-kV electric lines.

D. Regional Comprehensive Plan and Regional Transportation Plan

The Southern California Association of Governments' (SCAG) reviews projects in the Southern California region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction in order to monitor development. Projects and plans that are of sufficient size or magnitude as defined in CEQA Guidelines Section 15206 are considered "regionally significant" and must demonstrate to SCAG their consistency with a range of adopted regional plans and policies such as the Regional Comprehensive Plan and Guide, the Regional Transportation Plan, and the 2004 Compass Blueprint Growth Vision Report.

SCAG has identified 22 Minimum Criteria for Classification of Projects as Regionally Significant. Criteria 1-12 are recommended for use by CEQA Guidelines, Section 15206. Criteria 13-22 reflect SCAG's mandates and regionally significant projects that directly relate to policies and strategies contained in the Regional Comprehensive Plan and Guide. Criterion 14 identifies "New or expanded electrical generating facilities and transmission lines" as regionally significant projects. **Table 3.2-3** provides a summary of the Proposed Action's consistency with the SCAG intergovernmental review policies.

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-3
PROJECT CONSISTENCY WITH SOUTHERN CALIFORNIA ASSOCIATION OF
GOVERNMENTS INTERGOVERNMENTAL REVIEW POLICIES**

SCAG IGR Policies	Consistent with IGR Polices?	Analysis
Regional Transportation Plan Policies		
RTP G5 Protect the environment, improve air quality and promote energy efficiency.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all improve the air quality by providing up to 275-MW of renewable energy through solar power. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with RTP Goal 5. Based on project build-out of up to 275-MW, this will off-set approximately 807,000 metric tons of CO2 equivalents annually from the atmosphere based on an electricity emission factor of 739 pounds of CO2 equivalents per-megawatt hour. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agricultural and would not be consistent with this goal.
RTP G6 Encourage land use and growth patterns that complement our transportation investments and improves the cost-effectiveness of expenditures.	Yes	The Proposed Action and Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing all propose solar facilities that would create renewable energy. The location of the Proposed Action, and Alternatives 1, 2 and 3, is in a rural area of Imperial County not proposed for urban growth. Sufficient roadway infrastructure is available to accommodate operation, and additional transportation investments would not be required to serve the Proposed Project, Alternatives 1, 2 and 3. Therefore, the Proposed Project and Alternatives 1, 2 and 3 are consistent with RTP Goal 6. No growth would occur in association with Alternative 4 – No Action/No Project. Therefore Alternative 4 is also consistent with this goal
2004 Compass Blueprint Growth Vision Report Principals		
Principle 4: Promote sustainability for future generations		
GV P4.1 Preserve rural, agricultural, recreational	No	The Proposed Action, Alternative 1 - Double

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-3
PROJECT CONSISTENCY WITH SOUTHERN CALIFORNIA ASSOCIATION OF
GOVERNMENTS INTERGOVERNMENTAL REVIEW POLICIES**

SCAG IGR Policies	Consistent with IGR Polices?	Analysis
and environmentally sensitive areas.		Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be located on County lands that are currently in agricultural production and lands managed by the BLM in the Yuha Basin ACEC. The project includes design features and Best Management Practices to avoid and preserve sensitive areas whenever possible. In addition, the Applicant would be required to comply with standards enforced by the BLM and other state (such as CDFG) and federal agencies (such as USFWS). However, the Proposed Action, and Alternatives 1, 2 and 3, would not be consistent with this principle because the project involves conversion of agricultural land. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and would therefore be consistent with this goal.
GV P4.3: Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would involve production of renewable energy using solar PV technology. Harnessing the sun’s power to create carbon-free renewable energy, thereby eliminating fossil fuel emissions associated with production of up to 275-MW of electricity demonstrate the consistency with this principal. Therefore, the Proposed Action, and Alternatives 1, 2 and 3 would be consistent with this principle. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and would not be used to accommodate growth.
GV P4.4: Utilize “green” development techniques.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3

3.2 LAND USE AND SPECIAL DESIGNATIONS

**TABLE 3.2-3
PROJECT CONSISTENCY WITH SOUTHERN CALIFORNIA ASSOCIATION OF
GOVERNMENTS INTERGOVERNMENTAL REVIEW POLICIES**

SCAG IGR Policies	Consistent with IGR Polices?	Analysis
		- Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are examples of clean development techniques as they involve solar PV technology to generate electricity rather than fossil-fuel. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this principle. Under Alternative 4 – No Action/No Project, the project site would continue to be used for agriculture and would not be developed using green techniques.

Source: SCAG, 2008.

E. Imperial County Airport Land Use Compatibility Plan (ALUCP)

The Imperial County Airport Land Use Compatibility Plan (ALUCP) provides the criteria and policies used by the Imperial County Airport Land Use Commission to assess compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding the airports. The ALUCP emphasizes review of local general and specific plans, zoning ordinances, and other land use documents covering broad geographic areas.

The California Public Utilities Code (Section 21676.5) empowers the Commission to review additional types of land use “actions, regulations, and permits” involving a question of airport/land use compatibility if either: (1) the Commission and the local agency agree that these types of individual projects shall be reviewed by the Commission (Section 21676.5 (b)); or, (2) the Commission finds that a local agency has not revised its general plan or specific plan or overruled the Commission and the Commission requires that the individual projects be submitted for review (Section 21676.5 (a)). The Commission is also required to review “any request for variance from a local agency’s height limitation ordinance.” (Imperial County, 1996, p. 2-3)

The CSE Facility portion of the project site is located approximately nine miles south of the Naval Air Facility (NAF), El Centro. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the ALUCP (Imperial County, 1996), the CSE Facility site is not located within any of the compatibility zones as identified in the ALUCP. The ALUCP does not apply to BLM lands. Thus, the Gen-tie Line portion of the project is not subject to the requirements of the ALUCP. This issue is discussed further in Section 4.10, Health, Safety and Hazardous Materials.

3.2.2 AFFECTED ENVIRONMENT

3.2.2.1 REGIONAL SETTING

As discussed in Section 2.1.1 of this EIR/EA, the proposed CSE Facility site includes approximately 2,067 acres of privately held agricultural land located south of Seeley, California, near Mount Signal and

3.2 LAND USE AND SPECIAL DESIGNATIONS

approximately 8 miles southwest of the City of El Centro. The project site and surrounding areas to the north, south, east and west are primarily in agricultural production. A number of Imperial Irrigation District canals and drains align through, and surround, the project site. The westernmost edge of the project site (i.e. the easement through private lands) abuts BLM land. This area west of the project site is in the Yuha Basin, an area characterized by native desert scrub habitat. Regional access to the site is available via US Interstate 8 (I-8) and SR 98 (refer to **Figure 2.0-2** in Chapter 2.0).

3.2.2.2 ON-SITE LAND USES

The 2,067 acre CSE Facility site is generally flat and designated as Agriculture on the Imperial County Land Use Map (Imperial County, 1993). Approximately 1,950 acres of the site are in active agricultural production of non-food crops (predominantly forage crops such as bermuda grass and alfalfa. In addition, two single-family residences and a mobile home are located within the CSE Facility site. The CSE Project Area is bisected by various irrigation canals, ditches and public roads. The proposed Gen-tie Line is located within primarily undeveloped BLM desert lands. This 4.25 mile long segment of the Gen-tie Line would be located adjacent to existing transmission facilities that traverse BLM lands within the Corridor N of the Yuha Basin ACEC.

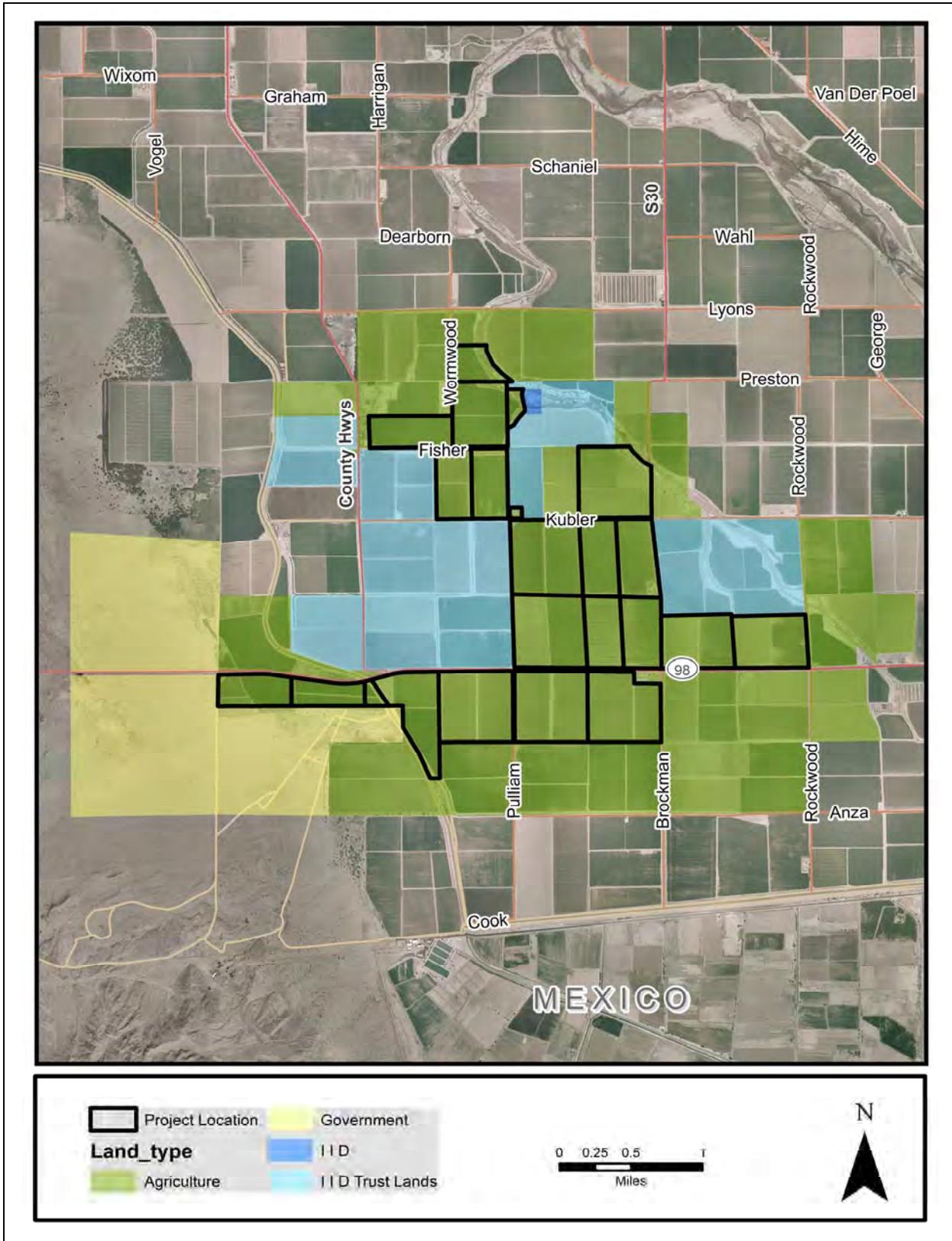
As discussed in EIR/EA Section 4.12 Biological Resources (and shown on **Figure 2.0-3** and **Figure 2.0-21** in Chapter 2.0), the proposed Gen-tie Line corridor through BLM land is entirely within the Yuha Basin ACEC of the CDCA, and is within Utility Corridor N. The CSE Facility site is on lands under the jurisdiction of Imperial County outside of the ACEC.

3.2.2.3 SURROUNDING LAND USES

The CSE Facility site is located on the western and southern fringe of developed agricultural lands in Imperial County. Land uses surrounding the project site include agricultural lands and the U.S. International Border with Mexico located approximately one mile to the south; the BLM CDCA Plan Utility Corridor N within the Yuha Basin, agricultural lands, and Westside Main Canal to the west; agricultural lands with a few rural residences, mobile homes and Mount Signal Slough are located to the east; and agricultural lands, the abandoned Mt. Signal Café, a few mobile homes and old farm labor camp housing are located to the north. SR 98 aligns east-west through the site dividing the northern parcels from the southernmost parcels on the CSE facility (GS Lyon, 2011a).

Lands surrounding the site is designated Agriculture on the Imperial County Land Use Map (Imperial County, 1993). Likewise existing uses surrounding the site are primarily agricultural fields with federal (government lands) lands managed by the BLM located to the west of the western-most portion of the project site (**Figure 3.2-2**). The Imperial Irrigation District also has trust lands adjacent to the eastern, western and northern borders of the project site.

3.2 LAND USE AND SPECIAL DESIGNATIONS



Source: Imperial County GIS, 2011.

FIGURE 3.2-2
SURROUNDING LAND USES

SECTION 3.3

TRANSPORTATION AND CIRCULATION

3.3 TRANSPORTATION AND CIRCULATION

3.3.1 REGULATORY FRAMEWORK

3.3.1.1 STATE

A. California Department of Transportation

The State of California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System. Caltrans is also responsible for portions of the Interstate Highway System within the state’s boundaries. Caltrans has jurisdiction over state highway right-of-way and has the authority to issue permits for work and encroachments (temporary or permanent) in these areas. Likewise, Caltrans is involved in review of traffic control plans, stoppage of traffic for placement of aerial lines, and installation or removal of overhead conductors crossing a highway (Armstrong, 2010). The Gen-tie Line will span SR 98 with an overhead crossing that will be subject to terms and conditions of an encroachment permit to be issued by Caltrans.

3.3.1.2 LOCAL

A. Imperial County General Plan Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element is included as part of the Imperial County General Plan pursuant to requirements of law and policies of federal, state, and regional agencies. The purpose of the Element is to provide a comprehensive document which contains the latest information about the transportation needs of the County and the various modes available to meet these needs and to facilitate regional transportation coordination. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth providing both regional and local linkage systems between unique communities and the County’s neighboring metropolitan regions. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Table 3.3-1 analyzes the consistency of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative with the applicable policies relating to land use in the County of Imperial General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.3-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Circulation and Scenic Highways Element		
Safe, Convenient, and Efficient Transportation System		
Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads. A traffic	Yes	A <i>Draft Traffic Impact Analysis</i> was prepared for the Proposed Action by LOS Engineering, Inc. The analysis examined a worst-case scenario during

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**TABLE 3.3-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
analysis may not be necessary in every situation, such as when the size or location of the project will not have a significant impact upon and generate only a small amount of traffic. Also, certain types of projects, due to the trip generation characteristics, may add virtually no traffic during peak periods. These types of projects may be exempt from the traffic analysis requirements. Whether a particular project qualifies for any exemption will be determined by the Department of Public Works Road Commissioner.		month six of Phase I construction to provide a conservative estimate of impacts. Similar traffic volumes are anticipated in association with construction of Alternative 1 and 2. No traffic analysis is required for Alternative 4 as no development is proposed. Therefore, the Proposed Action and Alternatives 1 and 2 are consistent with this objective.
Objective 1.12 Review new development proposals to ensure that the proposed development provides adequate parking and would not increase traffic on existing roadways and intersection to a level of service (LOS) worse than "C" without providing appropriate mitigations to existing infrastructure. This can include fair share contributions on the part of developers to mitigate traffic impacts caused by such proposed developments.	Yes	The <i>Draft Traffic Impact Analysis</i> was prepared for the Proposed Action by LOS Engineering, Inc., examined impacts to LOS and parking capacity. Fair share contributions are identified to mitigate cumulative impacts that would occur at three intersections in association with the Proposed Action (refer to Chapter 5.0, subsection 5.3). Similar contributions would be anticipated for Alternatives 1, 2 and 3 since these alternatives are anticipated to generate construction and operational traffic similar to the Proposed Action. No development is proposed as part of Alternative 4 so parking and traffic volumes would not be affected. The Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective.
Financing Alternatives		
Policy 4.1 Distribute the costs of transportation improvements equitably among those who will benefit, including current roadway users.	Yes	The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would all generate similar amounts of traffic during construction and operation (though slightly less traffic might be generated during construction of Alternative 2 and 3 because they involve less land area and/or infrastructure than the Proposed Project or Alternative 1). Costs associated with mitigating impacts resulting from the project are identified in the discussion of cumulative impacts in Chapter 5.0, subsection 5.3

3.3.2 AFFECTED ENVIRONMENT

Information contained in this section is summarized from the *Draft Traffic Impact Analysis* prepared by LOS Engineering, Inc. (LOS, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.

3.3.2.1 EXISTING CIRCULATION NETWORK

The existing roadway system and classifications are described below based on the Imperial County General Plan Circulation and Scenic Highways Element (January 29, 2008). (Excerpts from the Element are included in Appendix G of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.

Interstate 8 (I-8) is constructed as a four-lane divided roadway with two lanes in each direction between Dunaway Road and Imperial Avenue.

Brockman Road (S 30) is currently a paved roadway constructed as a two lane un-divided roadway between McCabe Road and SR 98. This segment of Brockman Road has a year 2003 classification of Major Collector in the Imperial County *Circulation and Scenic Highways Element*.

Drew Road (S 29) is currently a paved roadway constructed as a two lane un-divided roadway between I-8 and SR 98. This segment of Drew Road has a year 2003 classification of Prime Arterial in the Imperial County *Circulation and Scenic Highways Element*.

Ferrell Road is currently a paved roadway constructed as a two lane un-divided roadway between Kubler Road and SR 98. This segment of Ferrell Road has a year 2003 classification of Major Collector in the Imperial County *Circulation and Scenic Highways Element*.

Fisher Road does not have a paved surface. However, there is generally sufficient room for two lanes of traffic between Drew Road and Pulliam Road. Fisher Road has a year 2003 classification of Minor Collector in the Imperial County *Circulation and Scenic Highways Element*.

Forrester Road (S 30) is currently a paved roadway constructed as a two lane un-divided roadway between I-8 and McCabe Road. This segment of Forrester Road has a year 2003 classification of Prime Arterial in the Imperial County *Circulation and Scenic Highways Element*.

Kubler Road is currently a paved roadway constructed as a two lane un-divided roadway between Drew Road and Ferrell Road. This segment of Kubler Road has a year 2003 classification of Minor Collector in the Imperial County *Circulation and Scenic Highways Element*.

McCabe Road is currently a paved roadway constructed as a two lane un-divided roadway between Brockman Road and Forrester Road. This segment of McCabe Road has a year 2003 classification of Major Collector in the Imperial County *Circulation and Scenic Highways Element*.

Pulliam Road from Kubler Road to SR 98 has a paved surface and is currently constructed as a two lane un-divided roadway. Pulliam Road from Fisher Road to Kubler Road does not have a paved surface; however, there is generally sufficient room for two lanes of traffic. The segment of Pulliam Road between Fisher Road and SR 98 has a year 2003 classification of Minor Collector in the Imperial County *Circulation and Scenic Highways Element*.

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Rockwood Road is currently a paved roadway constructed as a two lane un-divided roadway between Kubler Road and SR 98. This segment of Rockwood Road has a year 2003 classification of Minor Collector in the Imperial County *Circulation and Scenic Highways Element*.

State Route (SR 98) is currently a paved road constructed as a two lane un-divided roadway between Drew Road and Dogwood Road. This segment of SR 98 has a year 2003 classification of State Highway in the Imperial County *Circulation and Scenic Highways Element*.

The existing roadway conditions are shown in **Figure 3.3-1A** and **Figure 3.3-1B**.

3.3.2.2 LEVEL OF SERVICE

A. Intersection LOS

In order to understand existing conditions, level of service (LOS) must be explained. The operating conditions of the study intersections are measured using the Highway Capacity Manual (HCM) LOS designations ranging from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. LOS worsens from A to F based on delay in seconds at the intersection. **Table 3.3-2** shows the delays for each LOS associated with un-signalized and signalized intersections. The individual LOS criteria for each roadway component are described below.

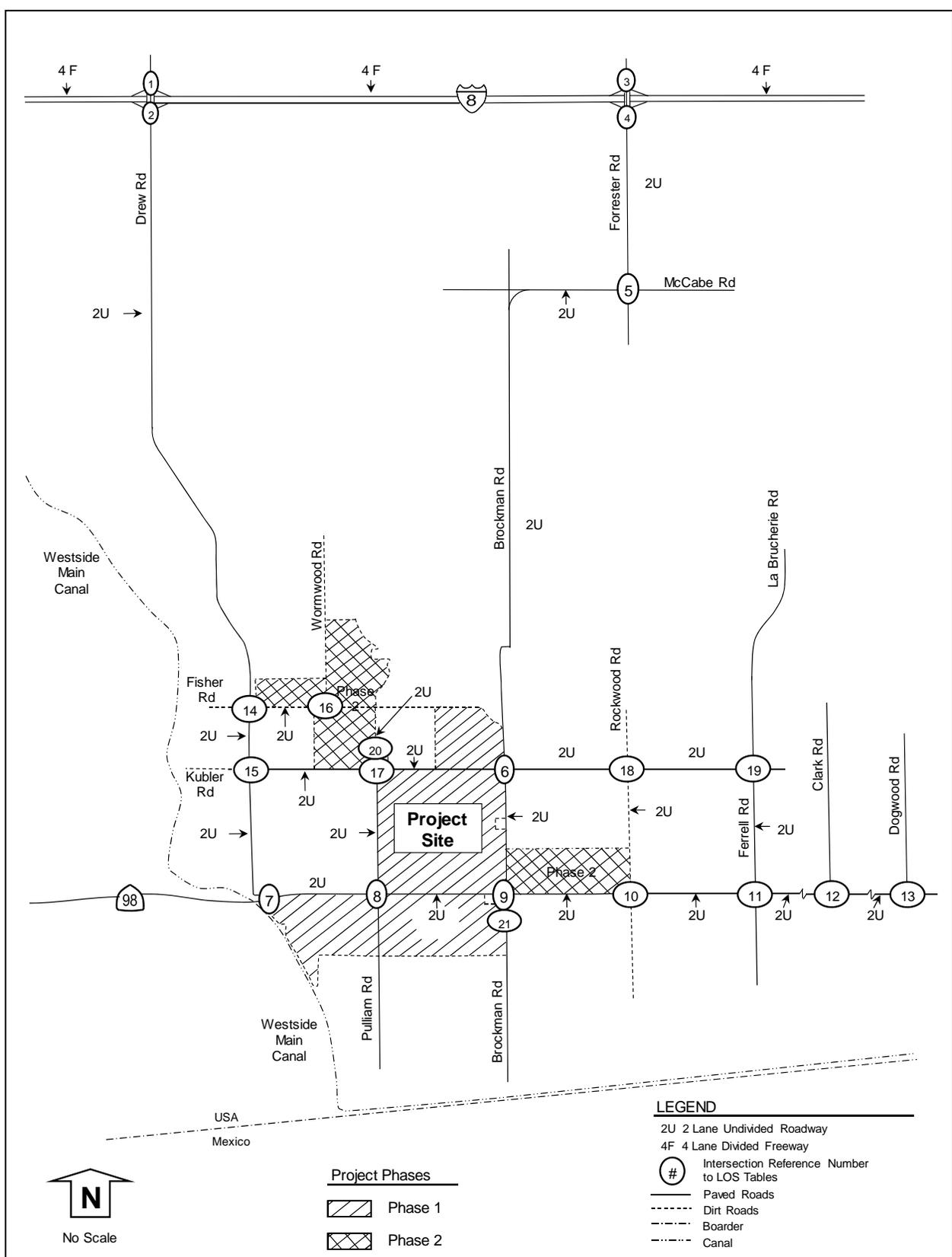
**TABLE 3.3-2
UN-SIGNALIZED AND SIGNALIZED INTERSECTION LEVEL OF SERVICE (HCM 2000)**

Level of Service	Un-Signalized Average Control Delay (seconds/vehicle)	Signalized Average Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: Highway Capacity Manual, 2000.

As noted on page 5 of Caltrans' *Guide for the Preparation of Traffic Impact Studies*, December 2002, the accepted methodology by Caltrans for un-signalized intersections is the most current edition of the HCM (excerpt included in Appendix B of the *Draft Traffic Impact Analysis*). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA). Therefore, all of the study interchanges with un-signalized intersections were analyzed using the most current edition of the HCM.

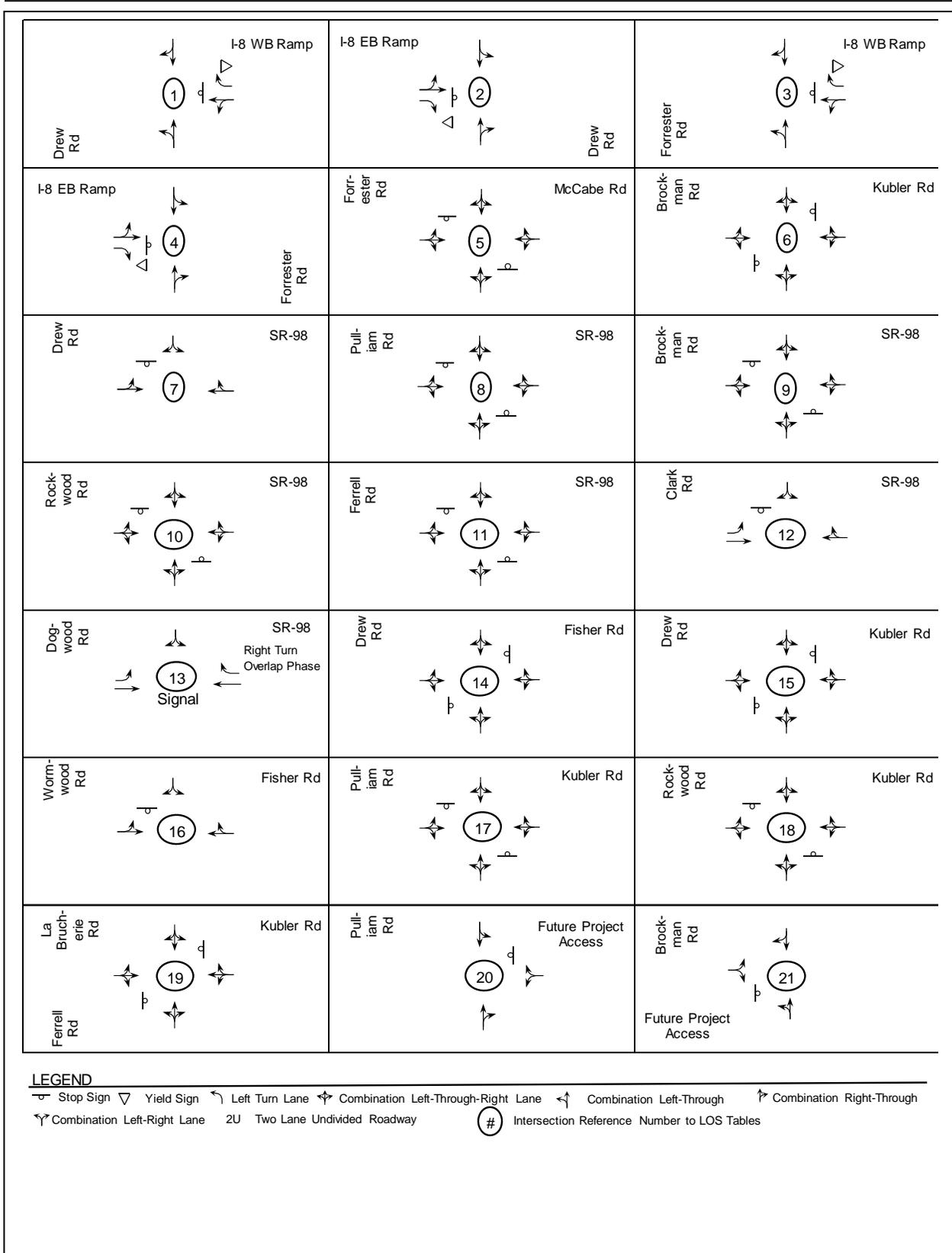
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Source: LOS, 2011.

FIGURE 3.3-1A
EXISTING (YEAR 2011) ROADWAY AND FREEWAY SEGMENT CONDITIONS

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Source: LOS, 2011.

FIGURE 3.3-1B
EXISTING (YEAR 2011) ROADWAY AND FREEWAY SEGMENT CONDITIONS

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B. Roadway Segment LOS

The roadway segments were analyzed based on the functional classification of the roadway using the Imperial County Standard Street Classification capacity lookup table (copy included in Appendix C of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA). The roadway segment capacity and LOS standards used to analyze roadway segments are summarized in **Table 3.3-3**.

**TABLE 3.3-3
ROADWAY SEGMENT DAILY CAPACITY AND LOS (IMPERIAL COUNTY)**

Circulation Element Road Classification	Cross Section	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	154/210	<30,000	<42,000	<60,000	<70,000	<80,000
Prime Arterial	106/136	<22,200	<37,000	<44,600	<50,000	<57,000
Minor Arterial	82/102	<14,800	<24,700	<29,600	<33,400	<37,000
Major Collector (Collector)	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Minor Collector (Local Collector)	40/70	<1,900	<4,100	<7,100	<10,900	<16,200
Local County (Residential)	40/60	*	*	<1,500	*	*
Local County (Residential Cul-de-Sac or Loop Street)	40/60	*	*	<200	*	*
Major Industrial Collector – (Industrial)	76/96	<5,000	<10,000	<14,000	<17,000	<20,000
Industrial Local	44/64	<2,500	<5,000	<7,000	<8,500	<10,000

Source: Imperial County Department of Planning and Development Services *Circulation and Scenic Highways Element* January 29, 2008.

Notes: *Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

C. Freeway Segment LOS

The freeway segments were analyzed based on a multi-lane highway LOS criterion using a Volume to Capacity (V/C) ratio as outlined in the 2000 HCM. The V/C ratio is the ratio of traffic to roadway capacity. The V/C ratio provides a measure of how much roadway capacity is being used. Freeway LOS operations are based on Caltrans' *Guide for the Preparation of Traffic Impact Studies* V/C ratios as summarized below in **Table 3.3-4**. Excerpts from Caltrans' *Guide for the Preparation of Traffic Impact Studies* are included in Appendix D of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.

**TABLE 3.3-4
FREEWAY LEVEL OF SERVICE**

Measure of Effectiveness	LOS A	LOS B	LOS C	LOS D	LOS E
Max Volume/Capacity Ratio (V/C)	0.30	0.50	0.71	0.89	1.00

Source: Caltrans' *Guide for the Preparation of Traffic Impact Studies*, December 2002.

3.3.2.3 EXISTING TRAFFIC VOLUMES (YEAR 2011)

The County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 states on page 14 "The study area for the project will be expected to encompass an adequate surrounding area to ensure that all impacts are identified to a sufficient extent that any mitigation measures, regardless of importance are shown, e.g. stop signs, yield signs, etc." The project study area

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for the Centinela Solar Energy Project is based on the extent of where 50 peak hour project trips will travel. County staff confirmed the 50 peak hour project trips threshold as the current practice for determining the study area and requires the analysis of the intersections identified below.

A. Intersection Volumes

Existing AM and PM peak hour intersection volumes were collected for the intersections numbered 1 through 21. The date of the count for each intersection is identified. **Table 3.3-5** provides a summary of the intersection locations and count dates. Note that a segment of Drew Road south of I-8 was closed due to seismic activity at the time the counts were collected. As a result, it was necessary to factor up the 2008 counts. A growth factor of 2.8 percent per year was used to represent year 2011. The 2.8 growth factor was determined based on the Southern California Association of Governments Community Development Division's 2004 *Regional Transportation Plan Socio-Economic Forecast Report*, dated June 2004.

**TABLE 3.3-5
INTERSECTION LOCATION AND DATE OF COUNT**

Number	Intersection	Date of Count
1	Drew Road/I-8 westbound Ramps	Thursday, March 20, 2008, with a 2.8% annual growth factor applied to reach a year 2011 volume
2	Drew Road/I-8 eastbound Ramps	Thursday, March 20, 2008, with a 2.8% annual growth factor applied to reach a year 2011 volume
3	Forrester Road/I-8 westbound Ramps	Thursday, March 24, 2011
4	Forrester Road/I-8 eastbound Ramps	Thursday, March 24, 2011
5	Forrester Road/McCabe Road	Thursday, March 24, 2011
6	Brockman Road/Kubler Road	Wednesday, March 16, 2011
7	SR 98/Drew Road	Thursday, March 24, 2011
8	SR 98/Pulliam Road	Wednesday, March 16, 2011
9	SR 98/Brockman Road	Wednesday, March 16, 2011
10	SR 98/Rockwood Road	Wednesday, March 16, 2011
11	SR 98/Ferrell Road	Wednesday, March 16, 2011
12	SR 98/Clark Road	Wednesday, March 16, 2011
13	SR 98/Dogwood Road	Wednesday, March 16, 2011
14	Drew Road/Fisher Road	Thursday, March 24, 2011
15	Drew Road/Kubler Road	Thursday, March 24, 2011
16	Wormwood Road/Fisher Road	Wednesday, March 16, 2011
17	Pulliam Road/Kubler Road	Wednesday, March 16, 2011
18	Rockwood Road/Kubler Road	Wednesday, March 16, 2011
19	Ferrell Road(La Brucherie Road)/Kubler Road	Wednesday, March 16, 2011
20	Pulliam Road/Future Project Access	Through movement counts from adjacent intersection volumes collected on Wednesday, March 16, 2011
21	Brockman Road/Future Project Access	Through movement counts from adjacent intersection volumes collected on Wednesday, March 16, 2011

Source: LOS, 2011.

B. Roadway Segment Volumes

Daily traffic volumes with count dates were obtained or collected for the 22 roadway segments. **Table 3.3-6** provides a summary of the roadway segment locations and count dates.

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**TABLE 3.3-6
ROADWAY SEGMENT AND DATE OF COUNT**

Number	Roadway Segment	Date of Count
1	Brockman Road from McCabe Road to Kubler Road	Thursday, March 24, 2011
2	Brockman Road from Kubler Road to SR 98	Wednesday, March 23, 2011
3	Drew Road from I-8 to Fisher Road	Wednesday, March 19, 2008, with a 2.8% annual growth factor applied to reach a year 2011 volume
4	Drew Road from Fisher Road to Kubler Road	Thursday, March 24, 2011
5	Drew Road from Kubler Road to SR 98	Thursday, March 24, 2011
6	Ferrell Road from Kubler Road to SR 98	Wednesday, March 23, 2011
7	Fisher Road from Drew Road to Wormwood Road	Wednesday, March 23, 2011
8	Forrester Road from I-8 to McCabe Road	Thursday, March 24, 2011
9	Kubler Road from Drew Road to Pulliam Road	Wednesday, March 23, 2011
10	Kubler Road from Pulliam Road to Brockman Road	Wednesday, March 23, 2011
11	Kubler Road from Brockman Road to Rockwood Road	Wednesday, March 23, 2011
12	Kubler Road from Rockwood Road to Ferrell Road/ La Brucherie Road	Wednesday, March 23, 2011
13	McCabe Road from Brockman Road to Forrester Road	Thursday, March 24, 2011
14	Pulliam Road from Fisher Road to Kubler Road	Wednesday, March 23, 2011
15	Pulliam Road from Kubler Road to SR 98	Wednesday, March 23, 2011
16	Rockwood Road from Kubler Road to SR 98	Wednesday, March 23, 2011
17	SR 98 from Drew Road to Pulliam Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
18	SR 98 from Pulliam Road to Brockman Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
19	SR 98 from Brockman Road to Rockwood Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
20	SR 98 from Rockwood Road to Ferrell Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
21	SR 98 from Ferrell Road to Clark Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
22	SR 98 from Clark Road to Dogwood Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume

Source: LOS, 2011.

C. Freeway Segment Volumes

Daily freeway volumes with count dates were obtained for three freeway segments. **Table 3.3-7** provides a summary of the freeway segment locations and count dates.

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**TABLE 3.3-7
FREEWAY SEGMENT AND DATE OF COUNT**

Number	Freeway Segment	Date of Count
1	I-8 from Dunaway Road to Drew Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
2	I-8 from Drew Road to Forrester Road	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume
3	I-8 from Forrester Road to Imperial Avenue	Caltrans 2009 with a 2.8% annual growth factor applied to reach a year 2011 volume

Source: LOS, 2011.

D. Peak Hour Intersection Performance

Table 3.3-8 summarizes the existing (Year 2011) weekday intersections LOS (Intersections LOS calculations are included in Appendix I of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA). As shown, all intersections currently operate at LOS C or better during both the weekday AM and PM peak hours. Fourteen of the intersections would operate at LOS A during both the AM and PM peak hours. Five of the intersections operate at LOS B during either the AM or PM peak hour with the intersection of SR 98 at Dogwood Road operating at LOS B during both the AM and PM peak hour. Only the intersection of Forrester Road at I-8 eastbound Ramp would operate at LOS C during the PM peak hour only. **Figure 3.3-2A** and **Figure 3.3-2B** depict the existing AM, PM, and daily intersection, roadway segment and freeway volumes for the project study area during weekday conditions (Count data is included in Appendix H of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA).

**TABLE 3.3-8
EXISTING (YEAR 2011) INTERSECTION LOS**

Intersection & (Control) ¹	Movement	Peak Hour	Existing (Year 2011)	
			Delay ²	LOS ³
1) Drew Road at I-8 westbound Ramp (U)	Minor Leg	AM	9.2	A
		PM	9.0	A
2) Drew Road at I-8 eastbound Ramp (U)	Minor Leg	AM	9.6	A
		PM	10.9	B
3) Forrester Road at I-8 westbound Ramp (U)	Minor Leg	AM	9.8	A
		PM	9.8	A
4) Forrester Road at I-8 eastbound Ramp (U)	Minor Leg	AM	10.8	B
		PM	16.9	C
5) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.1	A
		PM	9.0	A
6) Brockman Road at Kubler Road (U)	Minor Leg	AM	9.1	A
		PM	8.9	A
7) SR 98 at Drew Road (U)	Minor Leg	AM	8.6	A
		PM	9.2	A
8) SR 98 at Pulliam Road (U)	Minor Leg	AM	9.3	A
		PM	9.0	A
9) SR 98 at Brockman Road (U)	Minor Leg	AM	9.4	A
		PM	9.7	A

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**TABLE 3.3-8
EXISTING (YEAR 2011) INTERSECTION LOS**

Intersection & (Control) ¹	Movement	Peak Hour	Existing (Year 2011)	
			Delay ²	LOS ³
10) SR 98 at Rockwood Road (U)	Minor Leg	AM	9.7	A
		PM	9.4	A
11) SR 98 at Ferrell Road (U)	Minor Leg	AM	9.8	A
		PM	10.1	B
12) SR 98 at Clark Road (U)	Minor Leg	AM	9.9	A
		PM	10.7	B
13) SR 98 at Dogwood Road (S)	Minor Leg	AM	10.7	B
		PM	10.9	B
14) Drew Road at Fisher Road (U)	Minor Leg	AM	9.1	A
		PM	0.0	A
15) Drew Road at Kubler Road (U)	Minor Leg	AM	8.9	A
		PM	9.1	A
16) Wormwood Road Minor at Fisher Road (U)	Minor Leg	AM	8.5	A
		PM	0.00	A
17) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.8	A
		PM	9.0	A
18) Rockwood Road Minor at Kubler Road (U)	Minor Leg	AM	9.1	A
		PM	9.1	A
19) Ferrell Road at Minor at Kubler Road (U)	Minor Leg	AM	9.5	A
		PM	9.2	A
20) Brockman Road at Project Access (U)	Minor Leg	AM	DNE	DNE
		PM	DNE	DNE
21) Pulliam Road At Project Access (U)	Minor Leg	AM	DNE	DNE
		PM	DNE	DNE

Source: LOS, 2011.

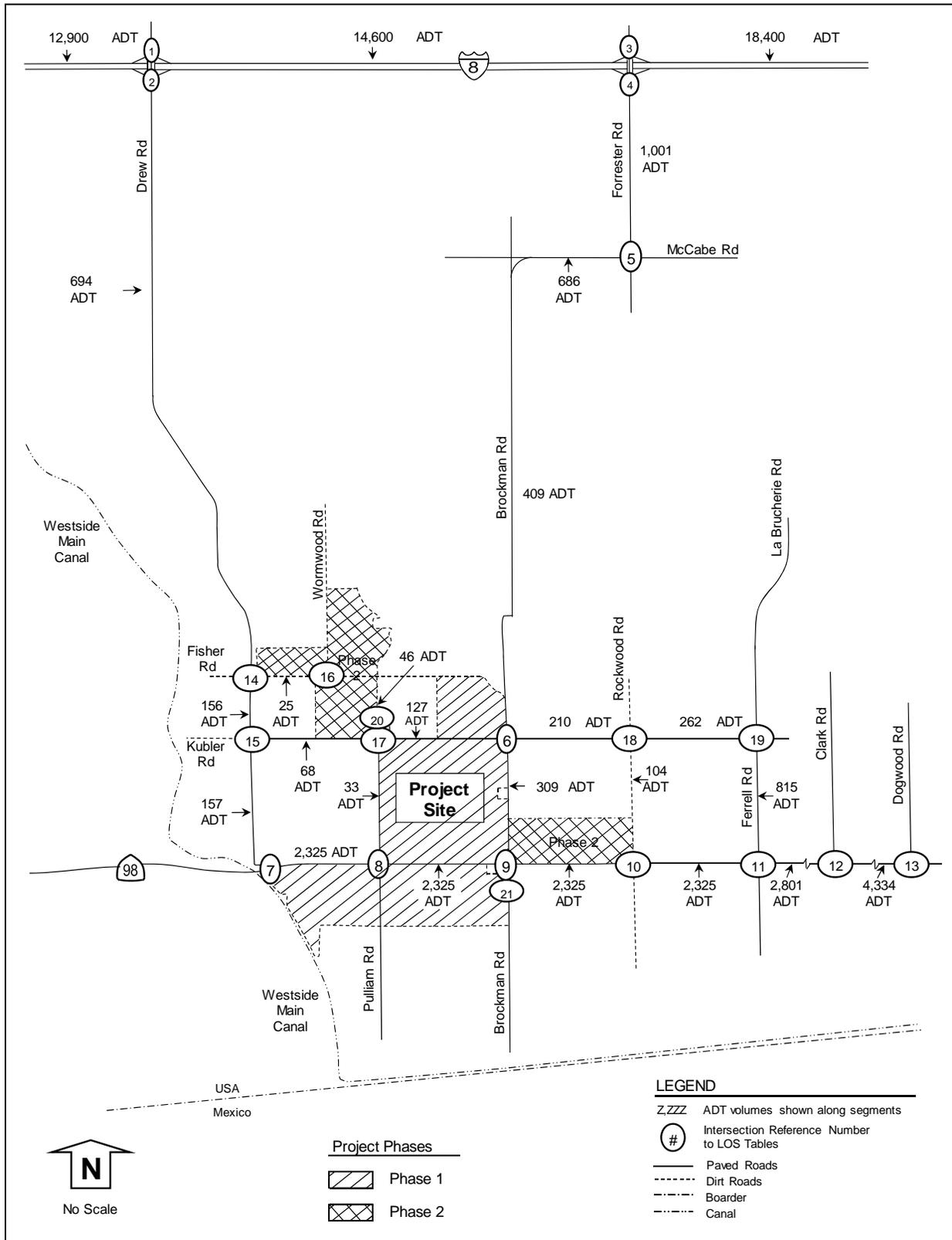
Notes: ¹Intersection Control - (S) Signalized, (U) Unsignalized
²Delay - HCM Average Control Delay in Seconds.

³Los: Level Of Service.
DNE: Does Not Exist

E. Daily Segment Volumes

Table 3.3-9 summarizes the existing (Year 2011) daily roadway segment LOS during the weekday conditions. Under existing year 2011 conditions, all study roadway segments were calculated to operate at LOS C or better. Thirteen segments would operate at LOS A; five segments would operate at LOS B; and four segments would operate at LOS C. **Figure 3.3-2A** identifies the existing average daily trips (ADTs) along roadway segments in the project study area during weekday conditions.

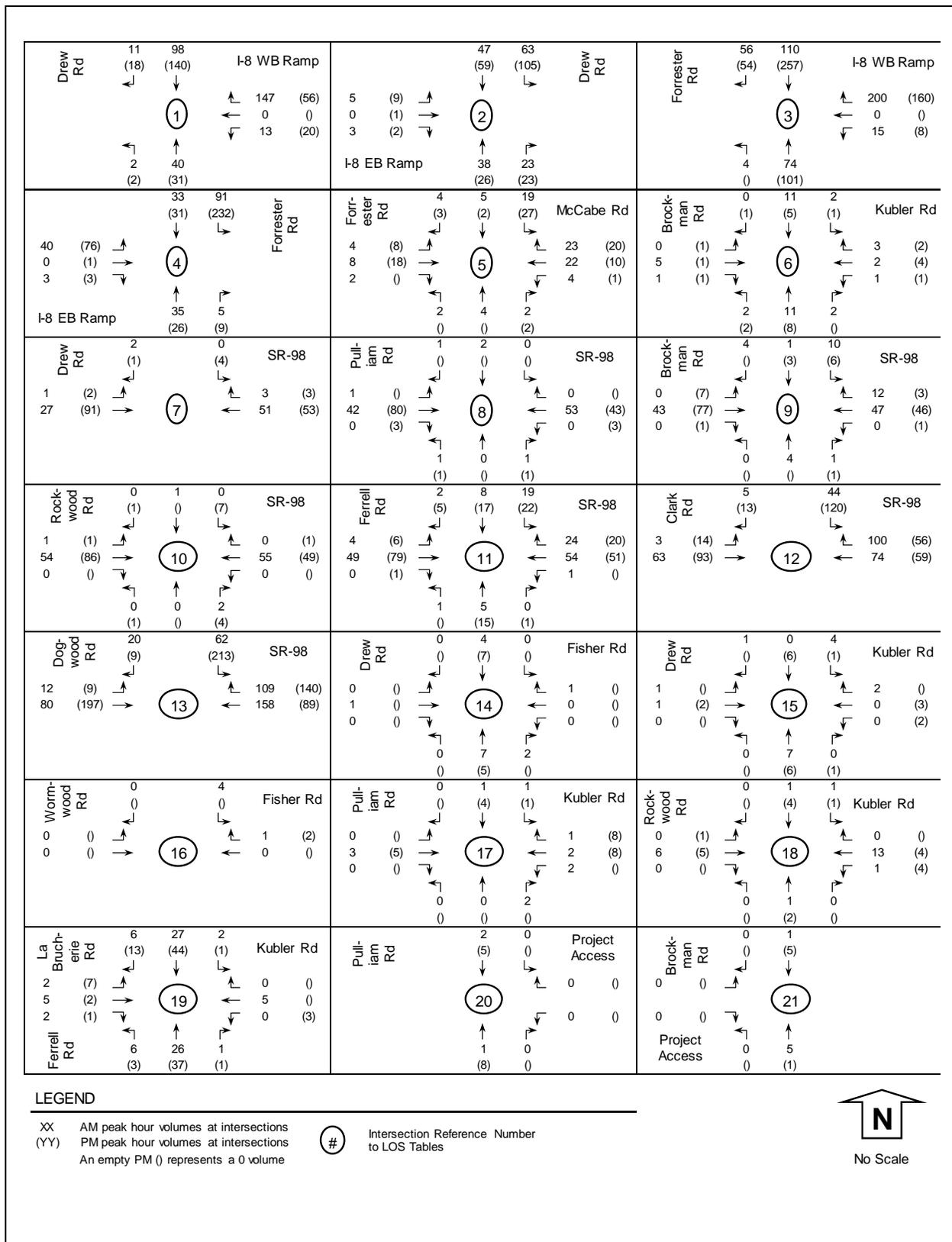
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Source: LOS. 2011.

FIGURE 3.3-2A
EXISTING (YEAR 2011) ROADWAY AND FREEWAY SEGMENT

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Source: LOS, 2011.

FIGURE 3.3-2B
EXISTING (YEAR 2011) ROADWAY AND FREEWAY SEGMENT VOLUMES

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**TABLE 3.3-9
EXISTING (YEAR 2011) ROADWAY SEGMENT LOS**

Segment	Classification (as built)	Existing (Year 2011)				
		Daily Volume	# of Lanes	LOS C Capacity	V/C	LOS
Brockman Road						
McCabe Road to Kubler Road	Major Collector (2U)	409	2	7,100	.06	A
Kubler Road to SR 98	Major Collector (2U)	309	2	7,100	.04	A
Drew Road						
I-8 to Fisher Road	Prime Arterial (2U)	694	2	7,100	.10	A
Fisher Road to Kubler Road	Prime Arterial (2U)	156	2	7,100	.02	A
Kubler Road to SR 98	Prime Arterial (2U)	157	2	7,100	.02	A
Ferrel Road						
Kubler Road to SR 98	Major Collector (2U)	815	2	7,100	.11	A
Fisher Road						
Drew Road to Wormwood Road	Minor Collector (Dirt 2U)	25	2	1,500	.02	C
Forrester Road						
I-8 to McCabe Road	Prime Arterial (2U)	1,001	2	7,100	.14	A
Kubler Road						
Drew Road to Pulliam Road	Minor Collector (2U)	68	2	7,100	.01	A
Pulliam Road to Brockman Road	Minor Collector (2U)	127	2	7,100	.02	A
Brockman Road to Rockwood Road	Minor Collector (2U)	210	2	7,100	.03	A
Rockwood Road to Ferrell Road	Minor Collector (2U)	262	2	7,100	.04	A
McCabe Road						
Brockman Road to Forrester Road	Major Collector (2U)	686	2	7,100	.10	A
Pulliam Road						
Fisher Road to Kubler Road	Minor Collector (Dirt 2U)	46	2	1,500	.03	C
Kubler Road to SR 98	Minor Collector (2U)	33	2	7,100	.00	A
Rockwood Road						
Kubler Road to SR 98	Minor Collector (Dirt 2U)	104	2	1,500	.07	C
SR 98						
Drew Road to Pulliam Road	State Highway (2U)	2,325	2	7,100	.33	B
Pulliam Road to Brockman Road	State Highway (2U)	2,325	2	7,100	.33	B
Brockman Road to Rockwood Road	State Highway (2U)	2,325	2	7,100	.33	B
Rockwood Road to Ferrell Road	State Highway (2U)	2,325	2	7,100	.33	B
Ferrell Road to Clark Road	State Highway (2U)	2,801	2	7,100	.39	B
Clark Road to Dogwood Road	State Highway (2U)	4,334	2	7,100	.61	C

Source: LOS, 2011.

Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element.

V/C: Volume to Capacity ratio.

2U = 2 lane undivided roadway.

Daily volume is a 24 hour volume.

LOS: Level of Service. LOS based on actual number of lanes currently constructed.

F. Existing Freeway Analysis

Table 3.3-10 summarizes the results of the existing daily freeway analysis during the weekday conditions for the three freeway segments identified in the study area. All three I-8 freeway segments operate at LOS B or better. The segment between Dunaway Road to Drew Road operates at LOS A in both the AM and PM hours in both directions (eastbound and westbound); the segment between Drew Road and Forrester Road operates at LOS A in the AM peak hour in both directions, at LOS A during the PM peak hour in the eastbound direction, and LOS B during the PM peak hour in the westbound direction; the

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segment between Forrester Road and Imperial Avenue operates at LOS A in the eastbound direction during both the AM and PM peak hour and LOS B in the westbound direction during both the AM and PM peak hour. **Figure 3.3-2A** identifies existing (Year 2011) ADTs along freeway segments in the project area during weekday conditions.

**TABLE 3.3-10
EXISTING (YEAR 2011) FREEWAY LOS**

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Ave			
Year 2011 (Forecasted from 2009)												
ADT	12,900				14,600				18,400			
Peak Hour	AM		PM		AM		PM		AM		PM	
Directions	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2	2	2	2	2
Capacity ¹	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor ²	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517
D Factor ³	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581
Truck Factor ⁴	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376
Peak Hour Volume	434	1,095	624	1,304	491	1,239	706	1,476	618	1,562	890	1,860
V/C	.092	.233	.133	.277	.104	.264	.150	.314	.132	.332	.189	.396
LOS	A	A	A	A	A	A	A	B	A	B	A	B

Source: LOS, 2011.

Notes: ¹ Capacity of 2,350 passenger cars per hour per lane (pcphpl) from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.

² Latest K factor (percentage of the ADT in both directions during the peak hour) from Caltrans (based on 2007 report).

³ Latest D factor (percentage of traffic in the peak direction during the peak hour) from Caltrans (based on 2007 report), which when multiplied by K and ADT will provide peak hour volume.

⁴ Latest truck factor from Caltrans (based on 2007 report).

LOS: Level of Service. LOS based on actual number of lanes currently constructed.

V/C: Volume to Capacity ratio.

EB = eastbound; WB = westbound

SECTION 3.4

AIR QUALITY

3.4 AIR QUALITY

3.4.1 REGULATORY FRAMEWORK

3.4.1.1 FEDERAL

A. Clean Air Act

The Clean Air Act was enacted in 1970 to foster growth in the economy and industry while improving human health and the environment. This law provides the basis for the national air pollution control effort. In order to improve air quality, the Clean Air Act requires areas with unhealthy levels of criteria pollutants to develop State Implementation Plans (SIPs). A SIP describes how and when National Ambient Air Quality Standards (NAAQS) will be attained for a specific area. SIPs are a compilation of state and local regulations used by the state to achieve healthy air quality under the Federal Clean Air Act. SIPs are comprised of new and previously submitted plans, monitoring programs, modeling programs, permitting programs, district rules, state regulations, and federal controls. State and local agencies are required to involve the public in the adoption process before SIP elements are submitted to the Environmental Protection Agency (EPA) for approval or disapproval. Likewise, the EPA is required to allow public comment prior to taking action on each SIP submittal. If the SIP is not acceptable to the EPA, the EPA has authority to enforce the Clean Air Act in that state.

The most recent major changes to the Clean Air Act occurred in 1990. The 1990 amendments established new deadlines for attainment based on the severity of the pollution problem. The amendments also instigated a comprehensive planning process for attaining the NAAQS. In 1997, new national 8-hour ozone (O₃) standard and the fine particulate matter (PM_{2.5}) standards were introduced. These new standards resulted in additional statewide air quality planning efforts.

The consistency of projects with the SIP is assessed through land use and growth assumptions that are incorporated into the air quality planning document. If a proposed action is consistent with the applicable General Plan of the jurisdiction where it is located, then the project is assumed to be accounted for as part of the regional air quality planning process. When a project is consistent in this regard, it would not have an adverse regional air quality impact.

National Ambient Air Quality Standards

The National Air Quality Standards (NAAQS) were established by the EPA per the requirements of the Clean Air Act. The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the Clean Air Act: 1) primary standards; and 2) secondary standards. Primary Standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

Carbon Monoxide (CO) is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. CO usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.

Lead (Pb) is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.

Nitrogen Dioxide (NO_x) is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_x is usually visible as a reddish-brown air layer over urban areas. NO_x along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_x above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_x exposure to levels near the current standard may worsen the effect of allergens.

Particulate Matter (PM₁₀ or PM_{2.5}) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (µm) or less and PM_{2.5} particles are 2.5 (µm) or less. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.

Ozone (O₃) is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning.

Sulfur Dioxide (SO₂) is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

Table 3.4-1 identifies the federal air quality standard for specific pollutants. An area is designated as being in attainment if the concentration of a specific air pollutant does not exceed the standard for that pollutant. An area is designated as being in nonattainment for a specific pollutant if the standard for that pollutant is exceeded. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years.

**TABLE 3.4-1
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ¹		Federal Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		-		
Fine Particulate Matter PM _{2.5}	24 Hour	No Separate State Standard			35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³		
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 g/m ³) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm ⁸		
Sulfur Dioxide (SO ₂)	24 Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	-	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) ⁹
	3 Hour	-		-	0.5 ppm (1300 µg/m ³)	
	1 Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) (See Footnote 9)	-	

**TABLE 3.4-1
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ¹		Federal Standards ²		
Lead ¹⁰	30 Day Average	1.5 µg/m ³	Atomic Absorption	-		-
	Calendar Quarter			1.5 µg/m ³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average			0.15 µg/m ³		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape				
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹⁰	1 Hour	0.01ppm (0.02(26 g/m ³))	Gas Chromatography			

Source: CARB, 2010.

¹ California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing articles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

² National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

⁴ Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

⁵ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

⁶ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

⁷ Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

⁸ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

⁹ On June 2, 2010, the U.S. EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO₂ standard of 0.14 ppm and the annual primary SO₂ standard of 0.030 ppm, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is

undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

¹⁰ The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

¹¹ National lead standard, rolling 3-month average: final rule signed October 15, 2008.

3.4.1.2 STATE

A. California Ambient Air Quality Standards

Individual states have the discretion to add additional pollutants beyond those identified as part of the NAAQS. The California Air Resources Board (CARB) is responsible for setting the laws and regulation for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same or more restrictive than the NAAQS. The CAAQS also include four additional contaminants in keeping with discretionary power granted to the State. The additional contaminants include:

- **Visibility Reducing Particles:** particles in the air that obstruct visibility.
- **Sulfates:** are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
- **Hydrogen Sulfide (H₂S):** is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. Usually, H₂S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat.
- **Vinyl Chloride:** is also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).

Table 3.4-1 identifies the both the national (federal) and state air quality standard for specific pollutants. The CARB defines Reactive Organic Gases (ROG) as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. CARB's Emission Inventory Branch uses the terms Total Organic Gases (TOG) and Reactive Organic Gases (ROG). California air pollution control districts report Total Organic Gases (TOG) to the Air Resources Board's emission inventory. For each source category, CARB derives a value for the Reactive Organic Gases (ROG) by multiplying the reported TOG by the Fraction of Reactive Organic Gases (FROG). Each source category is keyed to one of several hundred available chemical speciation profiles. For each category, the FROG value is calculated as the weight fraction of those species designated by CARB as reactive in the speciation profile applicable to the category (CARB, 2011).

The relationships among these organic gas terms are summarized as follows:

- TOG - Exempt compounds = ROG
- TOG x FROG = ROG

3.4.1.3 REGIONAL

A. Regional Air Quality Management

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the

CAAQS for any criteria pollutants are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the PM_{2.5} standard in California. The Salton Sea Air Basin (SSAB) encompasses all of Imperial County and part of Riverside County. Currently, the SSAB is in “non-attainment” status for O₃ and PM₁₀.

B. Southern California Association of Governments

The California Environmental Quality Act requires regional agencies to monitor regional development. The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for the counties of Los Angeles, Ventura, Orange, San Bernardino, Riverside and Imperial. SCAG is responsible for reviewing projects and plans in these six counties. Projects and plans with regional significance must demonstrate consistency with a range of adopted regional plans and policies.

One goal from the SCAG Regional Transportation Plan is identified **Table 3.4-2**.

**TABLE 3.4-2
PROJECT CONSISTENCY WITH APPLICABLE SCAG REGIONAL TRANSPORTATION PLAN GOALS**

Regional Transportation Plan Goal	Consistent with RTP?	Analysis
<p>Goal 5: Protect the environment, improve air quality and promote energy efficiency.</p>	<p>Yes</p>	<p>As a solar energy project, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would improve air quality by reducing the use of fossil fuels in energy production. Emissions associated with operation of the Proposed Action and Alternatives 1, 2 and 3 would not result in significant impacts to air quality. Short-term impacts associated with project construction would be reduced through compliance with Best Management Practices (BMPs) identified in Table 2.0-5 and Table 2.0-6 of Chapter 2.0, compliance with Imperial County Regulation VIII, Fugitive Dust Rules and mitigation measures identified in Section 4.4. Therefore, Proposed Action and Alternatives 1, 2 and 3 would be consistent with this goal. No facilities would be constructed as part of Alternative 4 – No Action/No Project which would forfeit improved air quality benefits that would result from the project (i.e. eliminating a portion of emissions from fossil-fuel burning electrical plants).</p>

3.4.1.4 LOCAL

A. Imperial County Air Pollution Control District

The State is divided into Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD). These agencies are county or regional governing authorities that have primary responsibility for controlling air pollution from stationary sources. The Imperial County Air Pollution Control District (ICAPCD) covers all of Imperial County which includes a portion of the Salton Sea Air Basin (SSAB). The ICAPCD is primarily responsible for monitoring air quality within County, enforcing regulations for new and existing stationary sources within the Imperial County portion of SSAB, and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards within the District.

2009 8-Hour Ozone Modified Air Quality Management Plan (2009 Modified AQMP)

To provide control measures to try to achieve ozone attainment status, the County of Imperial developed an Ambient Air Quality Strategy (AQAP). The AQAP was originally adopted by the ICAPCD in 1991. A new standard for ozone was subsequently adopted by EPA in 1997. As a result of the new standards, modified strategies to decrease higher ozone concentrations were required. In response, ICAPCD adopted the 8-hr Ozone Air Quality Management Plan (AQMP) in 2008. The AQMP was intended to guide non-attainment areas closer to NAAQS requirements. Subsequently, ICAPCD requested further modifications to the AQMP. The final *2009 8-Hour Ozone Modified Air Quality Management Plan* (2009 Modified AQMP) was adopted by ICAPCD on July 13, 2010.

2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter (SIP)

The Imperial Valley is classified as nonattainment for federal and state PM₁₀ standards. As a result, the ICAPCD was required to develop a PM₁₀ Attainment Plan. The final plan was adopted by ICAPCD on August 11, 2009. The SIP brings together data and discussion regarding particulate matter in Imperial County. The SIP also identifies control strategies to reduce PM₁₀ emissions associated with construction and agricultural operations.

Regulation VIII, Fugitive Dust Rules

The ICAPCD has established rules to address fugitive dust (PM₁₀). Regulation VIII, Fugitive Dust Rules, contains rules to reduce the amount of PM₁₀ generated from manmade sources within Imperial County. The rules require actions to prevent, reduce, or mitigate the PM₁₀ emissions (ICAPCD, 2006). Specifically, a project must adhere to Rule 801-Construction and Earthmoving Activities, Rule 805-Paved and Unpaved Road, and Rule 806-Conservation Management Practices to reduce PM₁₀ emissions.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of the size of project. However, because compliance with Regulation VIII is required for projects, compliance does not constitute mitigation for air quality impacts.

Screening Thresholds

The ICAPCD has established significance thresholds as part of the 2007 ICAPCD CEQA Handbook. These thresholds must be used in the preparation of Air Quality Impact Assessments (AQIA). The AQIA prepared for the Proposed Action was prepared in compliance with these thresholds (refer to Section 4.4).

Rule 310-Operational Development Fee

On November 6, 2007, the Imperial County Air Pollution Control District Board of Directors adopted Rule 310-Operational Development Fee to assist the Imperial County Air Pollution Control District (ICAPCD) to mitigate the air impact produced from the operation of new commercial and residential developments. The funds generated from Rule 310 for the past fiscal year are redistributed by the ICAPCD for various mitigation projects through an RFP process.

B. Imperial County General Plan

The General Plan Conservation and Open Space Element policies related to the Proposed Action are identified below. **Table 3.4-3** summarizes the project’s consistency with the applicable General Plan air quality policies. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Conservation and Open Space Element		
Protection of Air Quality		
<p>Objective 9.1: Ensure that all facilities shall comply with current federal and state requirements for attainment for air quality objectives.</p>	<p>Yes</p>	<p>All project facilities proposed as part of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would comply with current federal and State requirements for attainment for air quality objectives through the implementation of mitigation measures identified in Section 4.4. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective. No facilities would be constructed as part of Alternative 4 – No Action/No Project and this objective is not applicable.</p>
<p>Objective 9.2: Cooperate with all federal and state agencies in the effort to attain air quality objectives.</p>	<p>Yes</p>	<p>The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through the implementation of Best Management Practices (BMPs) identified in Table 2.0-5 and Table 2.0-6 of Chapter 2.0. In addition, compliance with Imperial County Regulation VIII, Fugitive Dust Rules and mitigation measures identified in Section 4.4 would also serve to reduce construction emissions consistent with this objective. The Proposed Action, as well as Alternatives 1, 2 and 3 would be subject to all BMPs, regulations and mitigation measures. No facilities would be constructed as part of</p>

**TABLE 3.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Alternative 4 – No Action/No Project and this objective is not applicable.

3.4.2 AFFECTED ENVIRONMENT

Information contained in this section is summarized from the *Air Quality Assessment* prepared by Ldn, Consulting, Inc. (Ldn, 2011a). This document is provided on the attached CD of Technical Appendices as **Appendix D** of this EIR/EA.

3.4.2.1 REGIONAL AND LOCAL CLIMATE/METEOROLOGICAL CONDITIONS

The project site is located in the Salton Sea Air Basin (SSAB). The SSAB encompasses all of Imperial County and part of Riverside County. The SSAB experiences mild and dry winters with daytime temperatures ranging from 65 to 75 degrees Fahrenheit. Summers are extremely hot with daytime temperatures ranging from 104 to 115 degrees Fahrenheit. Very little rainfall occurs in the SSAB (Ldn, 2011a).

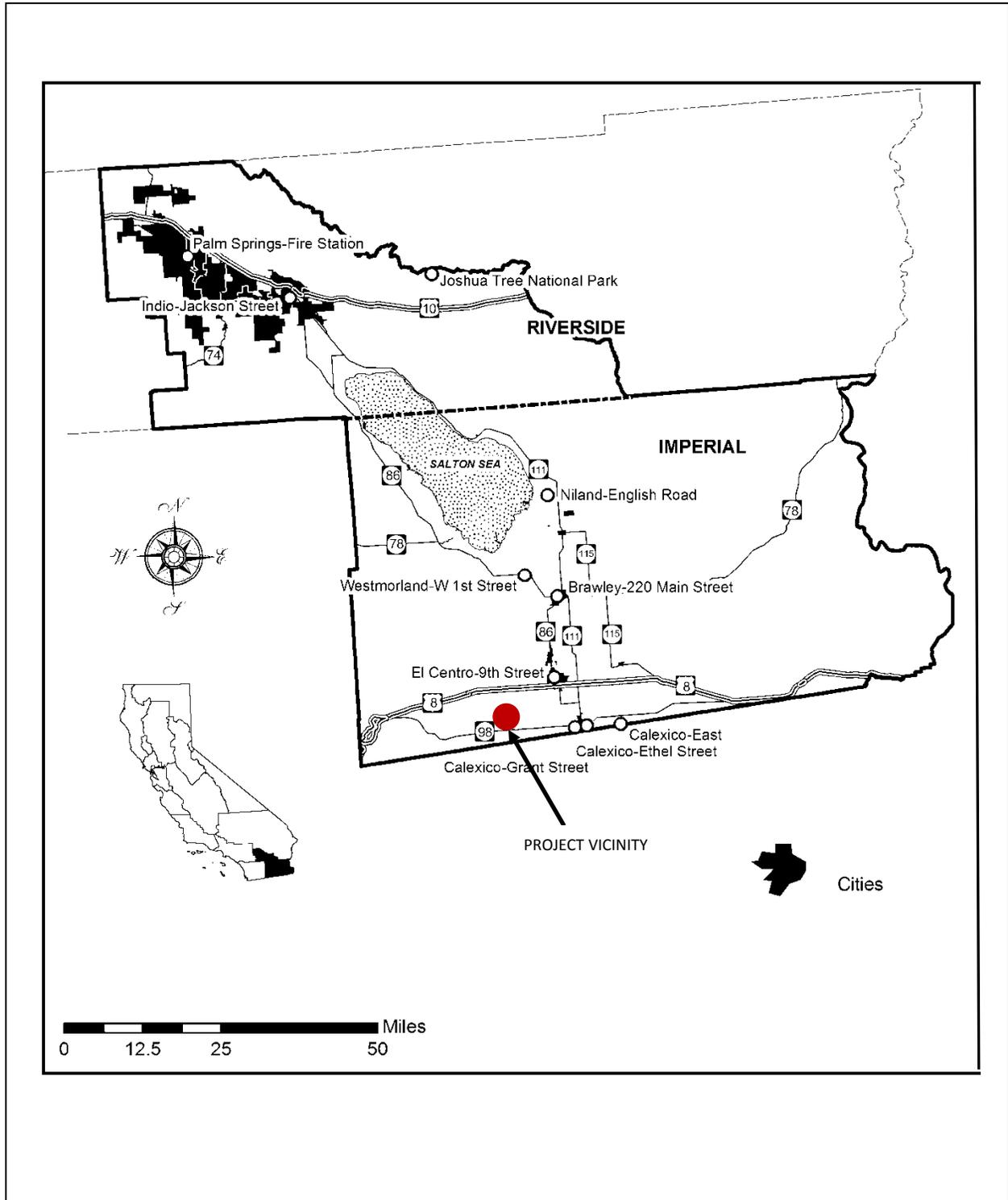
Imperial County usually receives approximately three inches of rain per year mostly occurring in late summer or midwinter. Summer weather patterns are dominated by intense heat induction low-pressure areas over the interior desert. The flat terrain of the Imperial Valley combined with strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.

The general wind speeds of the area are less than 10 miles per hour (mph), but occasionally increase to less than 30 mph during the months of April and May. Wind patterns reflect the temperature disparity between the cool ocean to the west and the warm desert interior. Statistics reveal that prevailing winds blow from the northwest-northeast. A secondary trend of wind from the southeast is also evident (Ldn, 2011a).

3.4.2.3 LOCAL AIR QUALITY

Criteria pollutants are measured continuously throughout Imperial County. This data is used to track ambient air quality patterns throughout the County and is also used to determine attainment status when compared to the NAAQS and CAAQS. The ICAPCD operates 10 monitoring sites, which collect data on criteria pollutants. **Figure 3.4-1** shows the relative locations of the monitoring sites.

3.4 AIR QUALITY



Source: Ldn, 2011a.

FIGURE 3.4-1
 AMBIENT AIR QUALITY MONITORING STATIONS (SSAB – ARB)

3.4 AIR QUALITY

The project site is closest to the Calexico Grant and Ethel Street monitoring stations, which is approximately 8 to 9 miles from the project site. Ambient data was obtained from the California Environmental Protection Agency’s Air Resources Board Website (CalEPA, 2011). **Table 3.4-4** identifies the criteria pollutants monitored closest to the project. Given the data, existing ambient air quality is considered “Non-Attainment” for O₃, PM₁₀ and PM_{2.5}. Therefore, the project must comply with the County’s SIP and limit the amounts of these pollutants.

**TABLE 3.4-4
LATEST THREE YEAR AMBIENT AIR QUALITY DATA NEAR PROJECT SITE**

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2007	2008	2009
O ₃ (ppm)	Calexico Grant Street	1 Hour	0.09 ppm	-	0.11	0.13	0.10
	Calexico Ethel Street	8 Hour	0.070 ppm	0.075 ppm	0.09	0.09	0.08
PM ₁₀ (µg/m ³)	Calexico Ethel Street	24 Hour	50 µg/m ³	150 µg/m ³	282	110.5	275.9
PM _{2.5} (µg/m ³)	Calexico Ethel Street	24 Hour	-	35 µg/m ³	66.7	37.1	45
	Calexico Ethel Street	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	12.9	N/A	N/A
NO ₂ (ppm)	Calexico Ethel Street	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.014	0.014	0.014
	Calexico Ethel Street	1 Hour	0.18 ppm	-	0.107	0.146	0.102
CO	Calexico Ethel Street	8 Hour	9 ppm	9 ppm	7.53	6.34	7.46

Source: Ldn, 2011a.

Notes: ppm=Parts per Million

µg/m³ = Micrograms per meter cubed

N/A=Not Available for give year

3.4.2.4 SENSITIVE RECEPTORS

Sensitive receptors refer to individual or uses which could be adversely affected by exposure to air pollutants. High concentrations of air pollutants present health hazards for the general population, but more so for the young, the elderly, and the sick. Respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort can result from exposure to smog and other air pollutants. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered especially sensitive to air pollutants. The proposed project site is surrounded by agricultural lands on all sides as well as land under the jurisdiction of the BLM immediately to the west. Existing residential uses on the project site will be removed as part of the project thereby eliminating potential exposure of residents. No sensitive receptors are located along roadway segments.

SECTION 3.5
GREENHOUSE GAS EMISSIONS/
CLIMATE CHANGE

3.5 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

3.5.1 GREENHOUSE GASES

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHG), in reference to the fact that greenhouses retain heat. Common GHGs include carbon dioxide (CO₂), water vapor (H₂O), methane (CH₄), nitrous oxide (N₂O), fluorinated gases, and ozone (O₃). Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely byproducts of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

The accumulation of GHG in the atmosphere regulates Earth's temperature. Without the natural heat trapping effect of GHG, Earth's surface would be about 34°C (degrees Celsius) cooler. However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. This phenomenon is commonly referred to as climate change.

3.5.1 REGULATORY FRAMEWORK

3.5.1.1 FEDERAL

In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess "the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation." The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

The United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC was entered on March 21, 1994. Under the convention, governments gather and share information on greenhouse gas emissions (GHGs), national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The Kyoto Protocol is a treaty made under the UNFCCC. Countries can sign the treaty to demonstrate their commitment to reduce their emissions of greenhouse gases or engage in emissions trading. More than 160 countries, 55 percent of global emissions, are under the protocol. United States Vice President Al Gore symbolically signed the Protocol in 1998. However, in order for the Kyoto Protocol to be formally adopted, or ratified, it must be adopted by the U.S. Senate, which was not done by the Clinton administration. To date, the U.S. has not ratified the Kyoto Protocol.

In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return greenhouse gas emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in greenhouse gas emissions.

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To date, the EPA has not regulated GHGs under the Clean Air Act; however, the U.S. Supreme Court in *Massachusetts v. EPA* (April 2, 2007) held that the EPA can, and should, consider regulating motor-vehicle GHG emissions. On June 30, 2009, the EPA granted California's request for a waiver to directly limit GHG tailpipe emissions for new motor vehicles beginning with the current model year. On December 7, 2009, the EPA determined that emissions of GHGs contribute to air pollution that "endangers public health and welfare" within the meaning of the Clean Air Act. This action finalizes the EPA's "endangerment determination" initially proposed on April 17, 2009, and now obligates the EPA to regulate GHG emissions from new motor vehicles. This finding sets the stage for the inevitable regulation under the Clean Air Act from a wide range of stationary and mobile sources unless Congress preempts such regulation by enacting climate change legislation.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHG under Section 202(a) of the Federal Clean Air Act (CAA):

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHG (CO₂, CH₄, N₂O, hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and SF₆) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHG from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by EPA and the United States Department of Transportation National Highway Safety Administration of September 15, 2009.

The Council on Environmental Quality's (CEQ) "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" proposes that if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO₂-equivalent (CO₂e) GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of CO₂e, CEQ encourages Federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs.

3.5.1.2 STATE

A. California Code of Regulations Title 24

Although not originally intended to reduce greenhouse gas emissions, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water

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heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions. CARB's greenhouse gas inventory is based on 2006 Title 24 standards.

B. State Standards Addressing Vehicular Emissions

California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles. CARB estimates that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030. The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020.

C. Executive Order S-01-07

Executive Order S-01-07 was enacted by the Governor on January 18, 2007. Essentially, the order mandates the following: 1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. It is assumed that the effects of the LCFS would be a 10 percent reduction in GHG emissions from fuel use by 2020.

D. Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California," and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

E. Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed California AB 32, the global warming bill, into law. AB 32 directs CARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and

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nonmonetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit.

- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

CARB has estimated that the 1990 GHG emissions level was 427 MMT net CO₂e. In 2004, the emissions were estimated at 480 MMT net CO₂e. CARB estimates that a reduction of 173 MMT net CO₂e emissions below business-as-usual would be required by 2020 to meet the 1990 levels. This amounts to a 15 percent reduction from today's levels and a 30 percent reduction from projected business-as-usual levels in 2020. In response to the requirements of AB 32, the CARB produced a list of 37 early actions for reducing GHG emissions in June 2007. The CARB expanded this list in October 2007 to 44 measures that have the potential to reduce GHG emissions by at least 42 million metric tons of CO₂ emissions by 2020, representing about 25 percent of the estimated reductions needed by 2020.

F. Senate Bill 97

Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs OPR to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the California Code of Regulations. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and therefore approve tiering of environmental analyses and highlights some benefits of such an approach.

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- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

G. Senate Bill 375

Senate Bill 375 requires that regions within the State which have a metropolitan planning organization must adopt a sustainable communities strategy as part of their regional transportation plans. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so, "it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to encourage developers to submit applications and local governments to make land use decisions that will help the State achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit serve and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

H. Senate Bill 1078, Senate Bill 107, and Executive Order S-14-08

SB 1078 initially set a target of 20 percent of energy to be sold from renewable sources by the year 2017. The schedule for implementation of the RPS was accelerated in 2006 with the Governor's signing of SB 107, which accelerated the 20 percent RPS goal from 2017 to 2010. On November 17, 2008, the Governor signed Executive Order S-14-08, which requires all retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020.

I. Executive Order S-21-09

Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 requires that the CARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target as established in Executive Order S-14-08. Under Executive Order S-21-09, the CARB will work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The CARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the CARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

3.5.1.3 LOCAL

A. County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and GCC impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Imperial County has not established formal quantitative or qualitative thresholds through a public rulemaking process, but CEQA permits the lead

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agency to establish a project-specific threshold of significance if backed by substantial evidence, until such time as a formal threshold is approved. These project-specific thresholds are provided in Section 4.5 if this EIR/EA.

3.5.2 AFFECTED ENVIRONMENT

Information in this section provides a summary of the effects and sources of GHGs and global climate change. Information in this section is derived from California Air Resources Board sources, as well as data and research conducted by the IPCC. The discussion provided below provides an overview of GHGs currently generated on the project site, the carbon sequestration potential of the project site, an overview of global climate change and the impacts that global climate change may have on California's resources.

3.5.2.1 PROJECT SITE

The proposed project/Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The proposed project/Proposed Action (which includes the CSE Facility on private land and Gen-tie Line corridor through private property easements and BLM land) is located south of Seeley, California, near Mount Signal and approximately 8 miles southwest of the City of El Centro.

All of the parcels that comprise the CSE Facility site are agricultural lands. Of the 2,067 acres, approximately 1,861 acres are in active agricultural production, predominantly of non-food crops (e.g., forage crops such as bermuda grass and alfalfa). The CSE Facility site is also transected by irrigation canals, ditches and public roads.

The CSE Facility site and much of the Gen-tie Line corridor would be located on lands that are in active agricultural production. There are limited "point source" quantities of GHGs currently being produced on the project site in the form of emissions associated with agricultural equipment use (trucks, tractors, etc). There are not considered major GHG sources, and as such, the existing use of the land is not a major or significant generator of GHGs. The existing agricultural operations on the site produce primarily alfalfa and bermuda grass, which have little to no value for biomass carbon sequestration. Additionally, these crops are harvested periodically, which further reduces their value as carbon sequestration elements. As such, the existing land has little to no value for carbon sequestration, and do not provide positive impacts related to GHG reductions.

3.5.2.2 GLOBAL CLIMATE CHANGE

Global climate change (GCC) is a change in the average weather of the earth that is measured by temperature, wind patterns, precipitation, and storms over a long period of time. The baseline, against which these changes are measured, originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed an unprecedented acceleration in the rate of warming during the past 150 years. GCC is a documented effect. Although the degree to which the change is caused by anthropogenic (man-made) sources is still under study, the increase in warming has coincided with the global industrial revolution, which has seen the widespread reduction of forests to accommodate urban centers, agriculture, and the

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use of fossil fuels – primarily the burning of coal, oil, and natural gas for energy. The majority of scientists agree that anthropogenic sources are a main, if not primary, contributor to the GCC warming.

The effects of increasing global temperature are far reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs is anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70 percent to 90 percent by the end of the 21st century (CEC, 2006). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and, according to the CEC report, it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (CEC, 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (CEC, 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Climate Change Center, 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 percent to 35 percent under the lower warming range, to 75 percent to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

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Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25 percent of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70 percent to 90 percent. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Summary and overview of the impacts of global climate change on various sectors of California's economy and natural resources is provided below.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk. Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already

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established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large of wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30 percent toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60 percent to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

3.5.2.3 SOURCES AND GLOBAL WARMING POTENTIALS OF GREENHOUSE GASES

The State of California GHG Inventory performed by the California Air Resources Board (CARB), compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs. The current inventory covers the years 1990 to 2004, and is summarized in **Table 3.5-1**. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: agriculture, commercial; electricity generation; forestry; industrial; residential; and transportation. To date, no GHG inventory has been prepared for Imperial County.

3.5 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

**TABLE 3.5-1
STATE OF CALIFORNIA GHG EMISSIONS BY SECTOR**

Sector	Total 1990 Emissions (MMTCO ₂ e)	Percent of Total 1990 Emissions	Total 2004 Emissions (MMTCO ₂ e)	Percent of Total 2004 Emissions
Agriculture	23.4	5 percent	27.9	6 percent
Commercial	14.4	3 percent	12.8	3 percent
Electricity Generation	110.6	26 percent	119.8	25 percent
Forestry (excluding sinks)	0.2	<1 percent	0.2	<1 percent
Industrial	103.0	24 percent	96.2	20 percent
Residential	29.7	7 percent	29.1	6 percent
Transportation	150.7	35 percent	182.4	38 percent
Forestry Sinks	(6.7)		(4.7)	

Source: CARB, 2010.

When accounting for GHGs, all types of GHG emissions are expressed in terms of CO₂e and are typically quantified in metric tons (MT) or millions of metric tons (MMT). GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the “cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas.” The reference gas for GWP is CO₂; therefore, CO₂ has a GWP of 1. The other main greenhouse gases that have been attributed to human activity include CH₄, which has a GWP of 21, and N₂O, which has a GWP of 310. **Table 3.5-2** presents the GWP and atmospheric lifetimes of common GHGs.

**TABLE 3.5-2
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES OF GHGs**

GHG	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (Years)
Carbon Dioxide	CO ₂	1	Variable
Methane	CH ₄	21	12±3
Nitrous Oxide	N ₂ O	310	120
Sulfur Hexafluoride	SF ₆	23,900	3,200

Source: CARB, 2010.

Human-caused sources of CO₂ include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that CO₂ concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO₂ have increased in the atmosphere since the industrial revolution.

CH₄ is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of N₂O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid (EPA, 2010). Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

3.5 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

The sources of GHG emissions, GWP, and atmospheric lifetime of GHGs are all important variables to be considered in the process of calculating CO₂e for discretionary land use projects that require a climate change analysis.

3.5.2.4 GREENHOUSE GASES AND ELECTRICITY GENERATION

The generation of electricity can produce GHG with the criteria air pollutants that have been traditionally regulated under the Federal and State CAAs. For fossil fuel-fired power plants, the GHG emissions include primarily CO₂, with much smaller amounts of N₂O and CH₄ (often from incomplete combustion of natural gas). For solar energy generation projects, the stationary source GHG emissions are much smaller than fossil fuel-fired power plants, but the associated maintenance vehicle emissions are the same. Other sources of GHG emissions include SF₆ from high voltage equipment and HFCs and PFCs from refrigeration/chiller equipment. GHG emissions from the electricity sector are dominated by CO₂ emissions from carbon-based fuels.

As California moves towards an increased reliance on renewable energy by implementing Renewable Portfolio Standard (RPS), non-renewable energy resources may be curtailed or displaced as shown in **Table 3.5-3**. These potential reductions in non-renewable energy, shown in **Table 3.5-4**, could be as much as 36,000 GWh.

**TABLE 3.5-3
ESTIMATED CHANGES IN NONRENEWABLE ENERGY POTENTIALLY NEEDED TO
MEET CALIFORNIA LOADS, 2008-2020**

California Electricity Supply	Annual GWh
Statewide Retail Sales, 2008, estimated ¹	265,185
Growth in Retail Sales, 2008-2020	308,070
Statewide Retail Sales, 2020, forecast ¹	42,885
Growth in Net Energy for Load ²	46,316

Source: BLM, 2010.

Notes: 1 = Not including 8 percent transmission and distribution losses.

2 = Based on 8 percent transmission and distribution losses, or 42,885 GWh x 1.08 = 46,316 GWh.

GWh = gigawatt hours

**TABLE 3.5-4
CHANGES IN NONRENEWABLE ENERGY, 2008-2020**

California Renewable Electricity	GWh @ 20 percent RPS	GWh @ 33 percent RPS
Statewide Retail Sales, 2008, estimated ¹	61,614	101,663
Statewide Retail Sales, 2020, forecast ¹	29,174	29,174
Growth in Retail Sales 2008-2020	32,440	72,489
Growth in Net Energy for Load ²	13,876	(-36,173)

Source: BLM, 2010.

Notes: 1 = Renewable standards are calculated on retail sales and not on total generation, which accounts for 8 percent transmission and distribution losses.

2 = Based on net energy (including 8 percent transmission and distribution losses), not on retail sales.

GWh = gigawatt hours; RPS = Renewables Portfolio Standard.

These assumptions are conservative in that the forecasted growth in electricity retail sales assumes that the impacts of planned increases in expenditures on (uncommitted) energy efficiency are already embodied in the current retail sales forecast (CEC, 2009). If, for example, forecasted retail sales in 2020 were lowered by 10,000 GWh due to the success of increased energy efficiency expenditures,

3.5 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

nonrenewable energy needs fall by an additional 8,000 to 6,700 GWh/year, depending on the RPS level, totaling as much as 45,000 GWh per year of reduced non-renewable energy, depending on the RPS assumed as shown in **Table 3.5-4**.

A. The Role of Solar Projects in Retirements/Replacements

Solar power production projects are capable of providing renewable generation energy to replace resources that are or will likely be precluded from serving California loads. State policies, including GHG goals, are discouraging or prohibiting new contracts and new investments in high GHG-emitting facilities such as coal-fired generation, generation that relies on water for once-through cooling, and aging power plants. Some of the existing plants that are likely to require substantial capital investments to continue operation in light of these policies may be unlikely to undertake the investments and will retire or be replaced.

SECTION 3.6

GEOLOGY AND SOILS

3.6 GEOLOGY AND SOILS

3.6.1 REGULATORY FRAMEWORK

3.6.1.1 FEDERAL

A. Federal Land Policy and Management Act (FLPMA)

The Federal Land Policy and Management Act provides the mandate to the BLM for the management of public lands and resources under its stewardship. The Act authorizes the BLM to manage public lands to protect the quality of scientific, scenic, historical, archeological, and other values, and to develop ‘regulations and plans for the protection of public land areas of critical environmental concern’. The Act also charges the BLM with protecting ‘life and safety from natural hazards’.

3.6.1.2 STATE

A. Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Zoning Act (Chapter 7.5, Division 2, Public Resources Code, State of California, effective May 4, 1975) provides a statewide mechanism for reducing losses from surface fault rupture. The Act promotes public safety by prohibiting siting of most structures for human occupancy across traces of active faults that constitute a hazard to structures from surface faulting or fault creep. In accordance with the Act, the Office of State Geologist delineated Special Study Zones that encompass potentially and recently active traces of four major faults (San Andreas, Calaveras, Hayward and San Jacinto). The County of Imperial is responsible for enforcing the Act by ensuring that homes, offices, hospitals, public buildings, and other structures for human occupancy that are built on or near active faults or within a special study zone, are designed and constructed in compliance with the County of Imperial Codified Ordinance (Imperial County, Seismic and Public Safety Element).

The project site is located in western Imperial County, south of Seeley, California near Mount Signal and approximately eight miles southwest of the City of El Centro. The project site is not located in an Alquist-Priolo Earthquake fault zone as depicted on Figure 4F Index to Official Maps of Earthquake Fault Zones (Department of Conservation, 2007). Surface fault rupture is considered unlikely at the project site because of the well-delineated fault lines through the Imperial Valley as shown United States Geologic Survey (USGS) and California Geological Survey (CGS) maps (Landmark, 2011). However, several zones are located in the vicinity of the project site through Calexico and Seeley.

B. The Seismic Hazards Mapping Act, PRC Section 2690–2699

The Seismic Hazards Mapping Act identifies areas subject to the effects of strong ground shaking, such as liquefaction, landslides, tsunamis, and sudden fluctuations of water levels on an inland sea (i.e. seiche).

C. California Building Code

The California Building Code (CBC) was approved and incorporated into the Uniform Building Code in 1998. In 2007, California adopted statewide, mandatory codes based on the International Code Council’s (ICC) Uniform codes. Among other elements, Chapter 16 of this code dictates the design and construction standards applicable to resist seismic shaking on structures. The CBC (2007) includes standards used in project investigation, design, and construction (including grading and erosion control).

D. Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 acknowledges that mineral extraction is essential to California's economy and that the reclamation of mined lands after extraction is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. The Act also classifies mineral resources in the State and provides information to local governments. Local governments are responsible for designating lands that contain regionally significant mineral resources in their local General Plans for preserving such areas from encroachment or conversion to other uses. The law has resulted in the preparation of Mineral Land Classification Maps delineating Mineral Resource Zones (MRZ) for aggregate resources (sand, gravel, and stone). The project site is not located in an area with any MRZ zones. However, mining does occur throughout the County of Imperial as shown on the Active Surface Mining Operations Map (County of Imperial, 2003).

3.6.1.3 LOCAL

A. County Land Use Ordinance

Title 9 Division 15 (Geological Hazards) of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, the construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. The proposed Project does not include any residential structures.

B. Imperial County General Plan

The Seismic and Public Safety Element of the Imperial County General Plan contains goals and policies to minimize the risks associated with natural and human-made hazards including seismic/geological hazards, flood hazards, and Imperial Irrigation District Lifelines.

Table 3.6-1 analyzes the consistency of the project with the applicable policies relating to seismic hazards and soil conditions in the Imperial County General Plan. While this EIR/EA analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Seismic and Public Safety Element		
Land Use Planning and Public Safety		
<p>Goal 1: Include public health and safety considerations in land use planning.</p>	<p>Yes</p>	<p>The proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project are located in a rural portion of Imperial County. Public health and safety would not be affected in association with development of a solar facility in this area based on its remote location away from population centers. Therefore, the Proposed Action and Alternatives 1 and 2 are consistent with this goal. No change in existing conditions would occur in association with Alternative 4 - No Action/No Project. Thus, this goal is not applicable.</p>
<p>Objective 1.4 Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.</p>	<p>Yes</p>	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative are sited in an area subject to seismic shaking. However, no faults are located through the site. The nearest seismic fault (Superstition Hills Fault) is located approximately 8.5 miles north of the site. The Proposed Action, and Alternatives 1, 2, 3 and 4 could experience strong ground shaking during earthquakes. However, the project would be designed in accordance with all applicable federal, State and local building codes. Alternative 4 - No Action/No Project would result in continued agricultural operations on the project site. Therefore, the Proposed Action, and Alternatives 1, 2, 3 and 4 would be consistent with Objective 1.4.</p>

**TABLE 3.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Seismic and Public Safety Element		
Land Use Planning and Public Safety		
<p>Objective 1.7 Require developers to provide information related to geologic and seismic hazards when siting a proposed project.</p>	<p>Yes</p>	<p>A Preliminary Geotechnical Investigation Report has been prepared by Landmark Consultants, Inc., for the Proposed Action. The report was used in the preparation of the analysis of geology and soils. The report's recommended measures to mitigate potential geologic or seismic hazards that may be associated with the project site have been incorporated into this EIR/EA. The geotechnical report would also apply to Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. No development would occur in association with Alternative 4 - No Action/No Project. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 would be consistent with Objective 1.7.</p>
Emergency Preparedness		
<p>Objective 2.8 Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.</p>	<p>Yes</p>	<p>The project site is located in a seismically active area. The Preliminary Geotechnical Investigation Report prepared for the project includes recommendations that all structures be designed in accordance with the California Building Code (CBC). Recommendations of the Report have been included as mitigation measures to reduce risks associated with seismic hazards (refer to Section 4.8). The Report applies to the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Alternative 4 - No Action/No Project would result in continued agricultural operations. Therefore, the Proposed Action, and Alternatives 1, 2, 3 and 4 would be consistent with Objective 2.8.</p>
Seismic/Geologic Hazards		

**TABLE 3.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>Policy 4 Ensure that no structure for human occupancy, other than one-story wood frame structures, shall be permitted within fifty feet of an active fault trace as designated on under the Alquist-Priolo Geologic Hazards Zone Act.</p>	<p>Yes</p>	<p>The Proposed Action, as well as Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing does not include any inhabitable structures. The Operations & Maintenance Building would be occupied by staff and would be designed in accordance with the CBC. Alternative 4 – No Action/No Project would result in continued agricultural operations on the project site. Therefore, the Proposed Action, and Alternatives 1, 2, 3 and 4 would be consistent with Policy 4.</p>

3.6.2 AFFECTED ENVIRONMENT

Information contained in this section is summarized from the Preliminary *Geotechnical Investigation Report, Centinela Solar Energy Facility and Gen-tie Line* prepared by Landmark Consultants, Inc. (Landmark, 2011). This document is **Appendix E** of the Technical Appendices of this EIR/EA on the attached CD.

3.6.2.1 GEOLOGY

The project site is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and on the southwest by the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity (GS Lyon, 2010a, 2010b, 2011a, 2011b).

Holocene Cahuilla Lake sediments, consisting of interbedded sand, silt, and clay, directly underlie the project site. The Holocene period dates back approximately 11,000 year ago. Holocene Lake deposits are considered to be less than 100-. The topography of the Imperial Valley is relatively flat, with few amounts of find sand and few significant land features. The valley floor slopes slightly to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea (GS Lyon, 2010a, 2010b, 2011a, 2011b).

3.6.2.2 SEISMICITY

As is common in most of Southern California, the project site is located within a seismically active region. There are four earthquake zones in the U.S.A., ranging from 1 to 4 with earthquake danger the greatest under rank 4. The Uniform Building Code classifies Imperial County as Seismic Zone 4, and the county contains a number of active faults. Faults include the Imperial Valley faults and faults in the San Andreas Fault system, the San Jacinto Fault system, and the Elsinore Fault system. The seismic fault nearest to the site is the Superstition Hills Fault located approximately 8.5 miles north. The Imperial Fault is located approximately thirteen miles northeast of the project site (GS Lyon, 2010a, 2010b, 2011a, and 2011b). Other nearby active faults include the Imperial Fault, and Laguna Salada Fault. **Figure 3.6-1** depicts the location of regional active faults. Potential hazards that occur from seismic activities include ground shaking, surface rupture, liquefaction, and landslides. Earthquakes can also cause abrupt elevation changes in excess of one foot across fault lines.

3.6.2.3 GROUND SHAKING

One of the seismic hazards most likely to impact the project site is strong ground shaking during an earthquake (Landmark, 2011). The amount of ground shaking in an area during an earthquake depends on several factors: 1) proximity of the area to the fault; 2) the depth of focus; 3) the location of the epicenter; and 4) the size (magnitude) of the earthquake. Soil type also plays a role in the intensity of shaking. Bedrock or other dense or consolidated materials are less prone to intense ground shaking than alluvial soils.

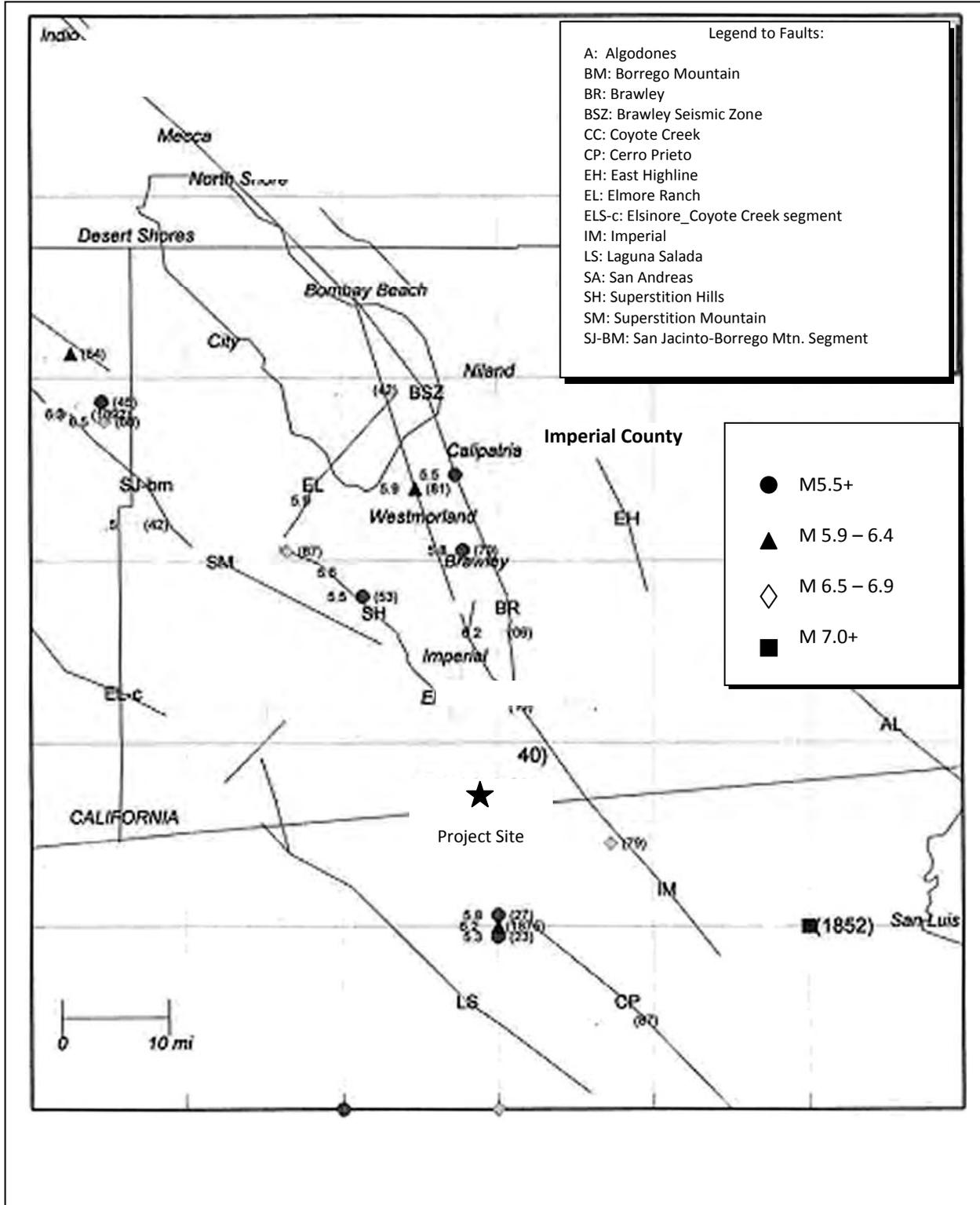
A soils map of the project site and surrounding area was prepared using geographic information systems ArcMap, 2010 and based on soils data obtained from the United States Department of Agriculture, Natural Resources Conservation Service (USDA, 2011a) (**Figure 3.6-2**). This map indicates that surficial deposits at the project site and surrounding area consist predominantly of silty clays and silty clay loams of the Imperial, Glenbar, Meloland, Holtville and Badlands soils groups. These clays and loams were formed in sediment and alluvium of mixed origin (Colorado River overflows and freshwater lakebed sediments) (GS Lyon, 2010a, 2010b, 2011a, 2011b).

Known faults or seismic zones within a 100-kilometer (62-mile) radius of the project site are shown in **Figure 3.6-1** and summarized in **Table 3.6-2**.

3.6.2.4 SURFACE RUPTURE

Surface rupture is the opening of the earth when a deep fault moves. Rupture typically is associated with pre-existing fault strands but may occur suddenly during an earthquake or over time in the form of fault creep. Surface rupture represents a primary or direct potential hazard to structures built on an active fault zone. However, the project site is not located in an Alquist-Priolo Earthquake Fault Zone that is prone to surface rupture. No faults are known to align through the project site.

3.6 GEOLOGY AND SOILS



Source: Landmark, 2011.

FIGURE 3.6-1
MAP OF REGIONAL FAULTS AND SEISMICITY

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3.6.2.5 LIQUEFACTION

Liquefaction occurs when granular soil below the water table is subjected to vibrations produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil reduces in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid similar to quicksand (Landmark, 2011). Four conditions are generally required for liquefaction to occur:

- 1) The soil must be saturated (relatively shallow groundwater)
- 2) The soil must be loosely packed (low to medium relative density)
- 3) The soil must be relatively cohesionless (not clayey); and
- 4) Ground shaking of sufficient intensity must occur to function as a trigger mechanism.

All of these conditions exist to some degree on the CSE facility site and the Gen-tie Line route (Landmark, 2011, p. 9).

**TABLE 3.6-2
SUMMARY OF EARTHQUAKE FAULTS AND ACTIVITY IN THE VICINITY OF THE PROJECT SITE**

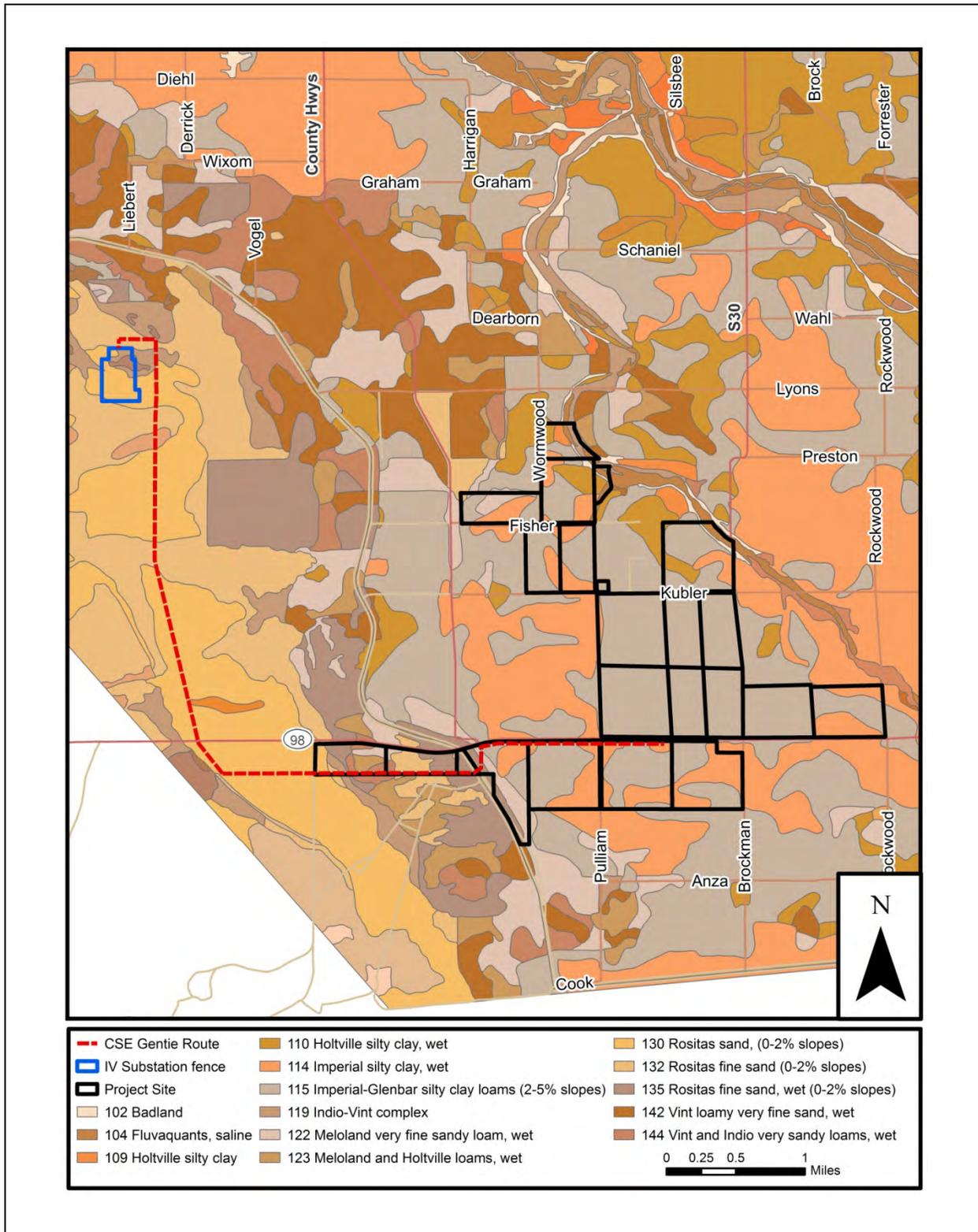
Fault Name or Seismic Zone	Distance (miles) & Direction from Site	Fault Length in Miles	Maximum Magnitude	Date of Last Rupture (year)	Largest Historic Event	
					>5.5m	Year
Imperial Valley Faults						
Imperial	13 NE	38.5	7.0	1979	7.0	1940
Brawley	14 NE	8.7	7.0	1979	5.8	1979
Cerro Preito	17 SE	72.1	7.2	1980	7.1	1934
Brawley Seismic Zone	18 NNE	26.1	6.4		5.9	1981
East Highline Canal	29 NE	13.7	6.3			
San Jacinto Fault System						
Superstition Hills	9.7 NNE	13.7	6.6	1987	6.5	1987
Superstition Mtn.	14 N	14.3	6.6	1440+/-		
Elmore Ranch	26 NNW	18.0	6.6	1987	5.9	1987
Borrego Mtn.	30 NW	18.0	6.6		6.5	1942
Anza Segment	48 NW	55.9	7.2	1918	6.8	1918
Coyote Creek	50 NW	24.9	6.8	1968	6.5	1968
Hot Springs-buck Ridge	63 NW	43.5	6.5		6.3	1937
Whole Zone	14 N	15.2	7.5			
Elsinore Fault System						
Laguna Salada	10 SW	41.6	7.0		7.0	1891
Coyote Segment	23 WNW	23.6	6.8			
Julian Segment	50 WNW	46.6	7.1			
Earthquake Valley	52 WNW	12.4	6.5			
Whole Zone	23 WNW	155.3	7.5			
San Andreas Fault System						
Coachella Valley	46 N	59.0	7.4	1690+/-	6.5	1948
Whole S. California Zone	46 N	284.6	7.9	1857	7.8	1857
Algodones	42 ENE	46.0	7.0			

Source: Landmark, 2011.

Notes: N = North NE = Northeast SE = Southeast SW = Southwest
 NNE = North Northeast NNW = North Northwest
 WNW = West Northwest ENE = East Northeast

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3.6 GEOLOGY AND SOILS



Source: USDA, 2011a.

FIGURE 3.6-2
SOILS MAP

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3.6.2.6 SUBSIDENCE

Subsidence is the gradual, local settling or sinking of the earth's surface with little or no horizontal motion. Subsidence is usually the result of gas, oil, or water extraction, hydro-compaction, or peat oxidation, and not the result of a landslide or slope failure. Ground surface effects related to subsidence are generally restricted to long surface structures such as canals, drains, and sewers, which are sensitive to slight changes in elevation. According to the Imperial County, Seismic and Public Safety Element, subsidence from earthquakes and other activities, including geothermal resources development, can disrupt drainage systems and cause localized flooding. Subsidence was not identified as an issue on the project site by the Preliminary Geotechnical Investigation Report (Landmark, 2011).

3.6.2.7 GROUNDWATER

Groundwater was encountered approximately 6 to 20 feet below ground surface during reconnaissance conducted in association with the Phase I Environmental Assessments (GS Lyon, 2010a, 2010b, 2011a, 2011b). Depth to groundwater may fluctuate due to localized geologic conditions, precipitation, irrigation, drainage and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the north, but may vary across the project site. Groundwater in the area of the project site is brackish (containing a high salt content).

3.6.2.8 LANDSLIDES

A landslide occurs when slopes become unstable and collapse. Natural factors such as fractured or weak bedrock, heavy rainfall, erosion, earthquake activity, and fire, as well as by human alteration of topography and water content, cause landslides or slope instability. The project site is generally flat and is not prone to landslides. In addition, the project site does not adjoin any elevated areas that would make it susceptible to landslide effects. No ancient landslides appear on geologic maps of the region, and Landmark (2011) found no indications of landslides during the site investigation.

3.6.2.9 SOIL MAP UNITS

The eleven soil map units are mapped on the project site. Various characteristics of the soils are summarized in **Table 3.6-3** and depicted in **Figure 3.6-2** and briefly described below.

Badland soils - steep to very steep barren land soils dissected by drainage ways in local steep topography. Texture is clay to gravelly sand. Surface runoff is rapid or very rapid, and the hazard of erosion is high.

Fluvaquant soils - very deep, nearly level hydric soils on floodplains and alluvial basin floors. Surface runoff on Fluvaquant soils is slow to ponded, and the hazard of erosion is slight. Flooding is a hazard in some areas.

Holtville series - very deep, well drained stratified soils on flood plains, terraces, and alluvial basin floors. Permeability is slow in the clayey layer and moderately rapid below this layer. Available water capacity is high to very high. The soil is non-saline or slightly saline. Surface runoff is slow and the hazard of erosion is slight.

Imperial series - very deep on flood plains and in basins and lakebeds. It is formed in clayey sediment from mixed sources. Permeability is slow, and available water capacity is very high. The soil is slightly saline. Surface runoff is slow, and the hazard of erosion is slight.

3.6 GEOLOGY AND SOILS

Indio-Vint complex - nearly level on flood plans and alluvial basin floors and are so intricately mixed that they were not separated on the soil map. The Indio series is very deep and well drained. Permeability of the Indio series is moderate, and available water capacity is high to very high. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is moderate. The Vint soil is very deep and well drained. Permeability of the Vint soil is moderately rapid, and available water capacity is moderate. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is high.

**TABLE 3.6-3
SUMMARY OF PROJECT SITE SOIL MAP UNITS**

Soil	Texture ¹	Depth of Surface Layer ¹	Wind Erodability Group ²	Erosion (K) Factor ³	Erosion Hazard Paths and Trails ⁴	Permeability Inches Per Hour ³
Badland	Gravelly Sand	10	N/A	N/A	N/A	N/A
Fluvaquants	N/A	N/A	N/A	N/A	N/A	N/A
Holtville	Silty Clay	17	5	.32	Moderate: Too clayey	.06 - .20
Imperial	Silty Clay Loam	10	5	.43	Moderate: Too clayey	.06 - .20
Imperial-Glenbar silty clay loams (2 to 5% slopes)	Silty Clay Loam	12	5	.43	Moderate: Too clayey	.06 - .20
Indio-Vint Complex	Loam	12	5	.55	Slight	0.6-2.0
Meloland very fine sandy loam, wet	Very Fine Sandy Loam	12	5	.43	Moderate: Wetness	0.6-2.0
Meloland and Holtville loam, wet	Sand	27	1	.20	Severe: Soil blowing	6.0-20.0
Rositas sand, (0 to 2% slopes)	Fine Sand	9	1	.2	Severe: Too sandy	6.0-20.0
Vint loamy very fine sand, wet	Loamy Very Fine Sand	10	3	.32	Moderate: Too sandy	2.0 – 6.0
Vint-Indio very sandy loams, wet	Loamy Very Fine Sand	10	3	.32	Slight	2.0 – 6.0

Source: U.S. Department of Agricultural Soil Conservation Service, 1981, Ericsson-Grant, Inc. 2011.

Notes:

N/A = not applicable or not available.

¹ Taken from Table 11, Engineering Index Properties.

² Wind erodibility groups range from 1 to 8, with 1 being highly erodible and 8 having low erodibility. Taken from Table 12, Physical and Chemical Properties of Soils.

³ This is an index of erodibility for standard condition and includes susceptibility of soil to erosion and rate of runoff. Low K values (below 0.15) indicate low erosion potential. High K values (above 0.4) are highly erodible. Taken from Table 12, Physical and Chemical Properties of Soils

⁴ Qualitative descriptors of erosion hazard: Slight = little or no erosion is anticipated, Moderate = some erosion anticipated, Severe = significant erosion potential exists. Taken from Table 9, Recreational Development (Paths and Trails).

Meloland series- very deep, nearly level and found on flood plains and alluvial basin floors. Permeability is slow, and available water capacity is high to very high. Surface runoff is slow, and the hazard of erosion is slight.

Meloland-Holtville association (loams) - never level soils formed on floodplains and alluvial basin floors. Permeability of the Meloland series is slow and available water capacity is high to very high. Surface runoff is slow. The hazard of erosion is slight, and the hazard of soil blowing is moderate. Holtville loam is very deep and stratified. Permeability of the Holtville soil is slow, and available water capacity is high to very high. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is moderate.

Rositas series (sand) - very deep, somewhat excessively drained, nearly level soil is on flood plains, basins, and terraces. Permeability is rapid and available water capacity is low. Surface runoff is slow, and the hazard of erosion is slight. There is high hazard of soil blowing.

Vint series(loamy very fine sand) - very deep, nearly level soil found on basin floors and flood plains. Permeability of the Vint series is moderately rapid, and available water capacity is moderate. Surface runoff is slow, and the hazard of erosion is slight. There is moderate hazard of soil blowing.

Vint-Indio association (very fine sandy loam) - an undifferentiated unit consisting of deep, nearly level soils on the bed of old Lake Cahuilla. The Vint series has moderately rapid permeability to a depth of 40 inches, and slow permeability below this depth. Available water capacity is moderate. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is moderate. Indio very fine sand loam series has moderate permeability to a depth of 40 inches and slow permeability below this depth. Available water capacity is high to very high. Surface runoff is slow, and the hazard of erosion is slight. The hazard of soil blowing is moderate.

3.6.2.10 EXPANSIVE SOILS

Expansive soils are primarily comprised of clay particles. Clay increases in volume when water is absorbed and shrinks when dry. Expansive soils can damage building foundations, concrete flatwork, and asphaltic concrete pavements as a result of swelling forces that reduce soil strength. In general, much of the near surface soils in the agricultural area of the Imperial Valley, including the project site, consist of silty clays and clays which are moderately to highly expansive. Native surface clays on the agricultural lands within the project site exhibit high to very high swell potential (Landmark, 2011, p. 7).

3.6.2.11 DIFFERENTIAL SETTLEMENT

Differential settlement refers to uneven settlement of a slab-on-ground foundation. When differential settlement occurs, some portions of the foundation settle more than other portions. Differential settlement in the project area could occur from seismically induced liquefaction (Landmark, 2011, p.9).

3.6.2.12 MINERAL RESOURCES

Imperial County contains diverse mineral resources. Those with the highest economic value include gold, gypsum, sand, gravel, lime, clay, and stone. Geologic factors restrict mining operations to the relatively few locations where mineral deposits are feasible for extraction. The majority of the mining areas are in the eastern portion of Imperial County as depicted on Figure 5, Mining Resources, of the Imperial County General Plan Conservation and Open Space Element (Imperial County, 1993). The CSE Facility site currently consists of agricultural land. A portion of the Gen-tie Line extends through desert lands with native vegetation cover. The project site appears to contain no mineral resources, and no mining activities occur in the vicinity of the project site.

SECTION 3.7
CULTURAL RESOURCES

3.7 CULTURAL RESOURCES

This section provides a background discussion of the regulatory framework and the affected environment. The regulatory framework discussion focuses on the federal, state, and local regulations. The affected environment discussion focuses on the Area of Potential Effect, the cultural setting, records search results, field inventory results, and Native American religious concerns.

Information contained in this section is summarized from four reports prepared for the project site: *Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area, Imperial County, California* prepared by Laguna Mountain Environmental, Inc. (Laguna, 2011); *Inventory Report of the Cultural Resources within the Centinela Solar Energy Gen-tie Line, Imperial County, California* prepared by kp environmental, LLC (kp, 2011a); *Addendum Letter Report for the Centinela Solar Energy Gen-tie Line Cultural Resources Inventory Report, Imperial County, California* (kp, 2011b); and *Inventory, Evaluation, and Analysis of Effects on Historic Resources within the Area of Potential Effect of the Centinela Solar Energy, LLC Imperial County, California* prepared by ASM Affiliates, Inc. (ASM, 2011).

3.7.1 REGULATORY FRAMEWORK

3.7.1.1 FEDERAL

A. National Environmental Policy Act (NEPA)

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to “preserve important historic, cultural, and natural aspects of our national heritage.” Cultural resources need not be determined eligible for the National Register of Historic Places (NRHP) as in the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality, 40 Code of Federal Regulations (CFR) 1500-1508. NEPA provides for public participation in the consideration of cultural resources issues, among others, during agency decision-making.

B. National Historic Preservation Act (NHPA)

Federal regulations (36 CFR Part 800.2) define historic properties as “any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, the NRHP.” Section 106 of the NHPA (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into account the effect of the project on properties included in or eligible for the NRHP, and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The term “cultural resource” is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

C. Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code (USC) Section 3001, et seq.

The statute defines “cultural items,” “sacred objects,” and “objects of cultural patrimony;” establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

3.7.1.2 STATE

A. State Office of Historic Preservation (OHP)

The OHP was established in response to the National Historic Preservation Act (NHPA) of 1966 to administer cultural resource programs established by federal and state law.

Section 15064.5 of the State CEQA Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (Health and Safety Code [HSC] Section 7050.5, PRC Sections 5097.94 et seq.).

B. AB 4239

AB 4239 established the Native American Heritage Commission (NAHC) as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

C. Public Resources Code 5097.97

No public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

D. Public Resources Code 5097.98 (b) and (e)

Public Resources Code 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified Most Likely Descendants (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

E. California Health and Safety Code, Section 7050.5

This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.

3.7.1.3 LOCAL

A. Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Open Space Element of the General Plan includes goals,

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objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. **Table 3.7-1** provides a consistency analysis of the applicable Imperial County General Plan policies relating to cultural resources as they relate to the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - No Action/No Project Alternative. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.7-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>Cultural Resources Conservation Policy Identify and document significant historic and prehistoric resources, and provide for the preservation of representative and worthy examples; and recognize the value of historic and prehistoric resources, and assess current and proposed land uses for impacts upon these resources.</p> <p>Programs</p> <ul style="list-style-type: none"> • The County will use the environmental impact report process to conserve cultural resources. Public awareness of cultural heritage will be stressed. All information and artifactual resources recovered in this process will be stored in an appropriate institution and made available for public exhibit and scientific review. • Encourage the use of open space easements in the conservation of high value cultural resources. • Consider measures which would provide incentives to report archeological discoveries immediately to the Imperial Valley College - Baker Museum. • Coordinate with appropriate federal, state, and local agencies to provide adequate maps identifying cultural resource locations for use during development review. Newly discovered archeological resources shall be added to the "Sensitivity Map for Cultural Resources". • Discourage vandalism of cultural resources and excavation by persons other than qualified archaeologists. The County shall study the feasibility of implementing policies and enacting ordinances toward the protection of cultural resources such as can be found in California Penal Code, Title 14, Point 1, Section 622-1/2. 	<p align="center">Yes</p>	<p>Two studies were performed for the Project. These include: <i>Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area, Imperial County, California</i> (Laguna, 2011) and <i>Inventory Report of the Cultural Resources within the Centinela Solar Energy Gen-tie Line, Imperial County, California</i> (kp,2011). Additionally, one report was prepared for a separate Project, but includes surveys and inventory of a portion of the APE for the Project. This includes: <i>Cultural Resources Survey for the Imperial Solar Energy Center South Project, Imperial County, California</i> (Zepeda-Herman, Carmen, Richard Shultz and Harry Pric. 2010). These three studies identify, document, and evaluate historic and prehistoric resources.</p> <p>Four mitigation measures were developed based on the recommendations provided in these studies. Mitigation Measure CR-1 through CR-4 are incorporated into the project in order to ensure that the project impacts to cultural resources, both known, and unknown, are reduced to a level of insignificance.</p>

3.7.2 AFFECTED ENVIRONMENT

The proposed project includes development of an approximately 2,067-acre area as part of a larger solar electric power plant. The project consists of two primary components: (i) generation and associated facilities on privately-owned land (the “CSE Facility”) and (ii) an approximately seven-mile, 230 kilovolt (kV) aboveground, electrical line (the “Gen-tie Line”) that will connect the generation facilities with the Imperial Valley Substation. The CSE Facility and Gen-tie Line are referred to collectively as the “Project.” The area encompassing the CSE Facility and the Gen-tie Line is referred to as the “CSE Project Area.”

Information contained in this section is summarized from three reports prepared for the project site: *Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area, Imperial County, California* prepared by Laguna Mountain Environmental, Inc. (Laguna, 2011); *Inventory Report of the Cultural Resources within the Centinela Solar Energy Gen-tie Line, Imperial County, California* prepared by kp environmental, LLC (kp, 2011a); and *Inventory, Evaluation, and Analysis of Effects on Historic Resources within the Area of Potential Effect of the Centinela Solar Energy, LLC Imperial County, California* prepared by ASM Affiliates, Inc. (ASM, 2011).

3.7.2.1 AREA OF POTENTIAL EFFECT (APE)

According to 36 CFR 800.16(d), the Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

The APE is located in Imperial County, approximately eight miles southwest of the City of El Centro. The APE is located approximately six miles south-southeast of the community of Seeley, adjacent to and mostly north of the community of Mount Signal. The APE is west of Greeson Wash, straddling State Route (SR) 98 (Yuha Cutoff) at the southern end, and just over one mile north of the international border.

The APE within the private lands is located within Township 17 South, Range 13 East, in sections 4, 5, 7, 9, 10, 16, 17, and 18 with a small northern portion in Section 31 within Township 16 South, Range 13 East (San Bernardino Baseline and Meridian), as shown on the Mount Signal 7.5' USGS Quadrangle. The APE on private lands consists of 11 private properties located between Lyons Road to the north, lands managed by the Bureau of Land Management (BLM) on the west, Rockwood Road at the east, and Anza Road to the south. These properties, from the north to south, include Simmons (northern), LeCrivain, Iliff, Wilson, Diaz, Simmons (eastern), Bishop, Yang, Chen, Dessert, West-Gro, and Brundy.

The APE within BLM land is located within Section 3 of Township 16 1/2 South, Range 12 East; and Sections 2, 11, 12, and 13 of Township 17 South, Range 12 East (San Bernardino Baseline and Meridian), as shown on the Mount Signal 7.5' USGS Quadrangle. The APE on BLM land consists of the Gen-tie Line alternative alignments encompassing approximately 267 acres, stretching from SDG&E's Imperial Valley Substation in Imperial County southwards and east 4.25 miles toward the Westside Main Canal.

Cultural resource work was conducted in accordance with National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA). The archaeological survey was conducted to determine if any cultural resources eligible for inclusion in the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register) or significant under CEQA would be affected by this Project.

3.7.2.2 CULTURAL SETTING

A. Natural Environment

The APE is within the western portion of the Colorado Desert, which is also part of the larger Sonoran Desert. The area is located between the Colorado River on the east, the Yuha Desert on the west, the Salton Sea to the north, and the U.S.-Mexico International Border to the south. Three Native American groups are associated with this area and include the Quechan, Cocopah, and Kumeyaay. Euro-American occupation of the area has also altered the cultural landscape through processes of travel, settlement, mining, and military operations.

The APE within the private lands is dominated by active agriculture with very limited native vegetation remaining. The farm fields were likely dominated by desert scrub prior to replacement by agricultural crops. This agricultural development has taken place in the past century and included the construction of a substantial system of gravity-flow irrigation canals along with drains to facilitate the farmland. Most of the farm fields are bordered by a series of these concrete canals and earthen drains. Patches of wetland vegetation occur along some portions of earthen berms, comprised of a mixture of native and non-native species.

The APE within BLM land traverses habitats with vegetation that includes a mixture of native and non-native species. Animal resources in the region include deer, fox, raccoon, skunk, bobcats, coyotes, rabbits, and various rodent, reptile, and bird species. Small game, dominated by rabbits, is relatively abundant.

B. Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 9,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the San Dieguito complex is still seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and also near the coast where it was first documented at the Harris Site.

C. Early Archaic Period

Native Americans during the Archaic period had a generalized economy that focused on hunting and gathering. Along the Colorado River, Native Americans chose to replace this economy with types based on horticulture and agriculture. California desert economies remained largely based on wild resource use until European contact. Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on the use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present (B.P.), the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of

marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change, but these units are poorly defined locally due to poor site preservation.

D. Late Archaic or Late Prehistoric Period

Around 2,000 B.P., Yuman-speaking people from the eastern Colorado River region began migrating into southern California, representing what is called the Late Prehistoric Period. The Late Prehistoric Period in San Diego County is recognized archaeologically by smaller projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns. Inland semi-sedentary villages were established along major watercourses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling features on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed grinding basins. This period is known archaeologically in southern San Diego County as the Yuman or the Cuyamaca Complex.

The Kumeyaay (formerly referred to as Diegueño) who inhabited the southern region of San Diego County, western and central Imperial County, and northern Baja California are the direct descendants of the early Yuman hunter-gatherers. Kumeyaay territory encompassed a large and diverse environment, which included marine, foothill, mountain, and desert resource zones. Their language is a dialect of the Yuman language, which is related to the large Hokan super family.

There seems to have been considerable variability in the level of social organization and settlement variance. The Kumeyaay were organized by patrilineal, patrilocal lineages that claimed prescribed territories, but did not own the resources except for some minor plants and eagle aeries. Some lineages occupied procurement ranges that required considerable residential mobility, such as those in the deserts. In the mountains, some of the larger groups occupied a few large residential bases that would be occupied biannually, such as those occupied in Cuyamaca in the summer and fall and in Guatay or Descanso during the rest of the year. According to Spier, many Eastern Kumeyaay spent the period of time from spring through autumn in larger residential bases in the upland procurement ranges, and wintered in mixed groups in residential bases along the eastern foothills on the edge of the desert (i.e., Jacumba and Mountain Springs). This variability in mobility and organization reflects the range of environments in the territory.

In the deserts of southern California, Lake Cahuilla formed a large oasis with lush natural resources in the Colorado Desert. Storable resources such as mesquite or agave were valuable to groups inhabiting desert areas, at least during certain seasons. Seeds from grasses, manzanita, sage, sunflowers, lemonade berry, chia and other plants were also used along with various wild greens and fruits. Deer, small game and birds were hunted and fish and marine foods were eaten. Houses were arranged in the village without apparent pattern. The houses in primary villages were conical structures covered with tule bundles, having excavated floors and central hearths. Houses constructed at the mountain camps generally lacked any excavation, probably due to the summer occupation. Other structures included sweathouses, ceremonial enclosures, ramadas and acorn granaries. The material culture included ceramic cooking and storage vessels, baskets, flaked lithic and ground stone tools, arrow shaft straighteners, stone, bone, and shell ornaments.

Hunting implements included the bow and arrow, curved throwing sticks, nets and snares. Shell and bone fishhooks, as well as nets, were used for fishing. Lithic materials including quartz and metavolcanics were commonly available throughout much of the Kumeyaay territory. Other lithic resources, such as obsidian, chert, chalcedony and steatite, occur in more localized areas and were acquired through direct procurement or exchange. Projectile points including the Cottonwood Series points and Desert Side-notched points were commonly produced.

Kumeyaay culture and society remained stable until the advent of missionization and displacement by Hispanic populations during the eighteenth century. The effects of missionization, along with the introduction of European diseases, greatly reduced the native population of southern California. By the early 1820s, California was under Mexico's rule. The establishment of ranchos under the Mexican land grant program further disrupted the way of life of the native inhabitants.

E. Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, the project area was within the territory of a loosely integrated cultural group historically known as the Kumeyaay or Northern and Southern Diegueño because of their association with the San Diego Mission. The Kumeyaay as a whole speak a Yuman language that differentiates them from the Luiseño to the north, who speak a Takic language. Both of these groups were hunter-gatherers with highly developed social systems. European contact introduced diseases that dramatically reduced the Native American population and helped to break down cultural institutions. The transition to a largely Euroamerican lifestyle occurred relatively rapidly in the nineteenth century.

F. Historic Period

Native American control of the southern California region ended in the political views of western nations with Spanish colonization of the area beginning in 1769. De facto Native American control of the majority of the population of California did not end until several decades later. In southern California, Euroamerican control was firmly established by the end of the Garra uprising in the early 1850s.

The Spanish Period (1769-1821) represents a period of Euroamerican exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego and San Luis Rey Missions. The Mission system used Native Americans to build a footing for greater European settlement. The Mission system also introduced horses, cattle, other agricultural goods and implements; and provided construction methods and new architectural styles. The cultural and institutional systems established by the Spanish continued beyond the year 1821, when California came under Mexican rule.

The Mexican Period (1821-1848) includes the retention of many Spanish institutions and laws. The mission system was secularized in 1834, which dispossessed many Native Americans and increased Mexican settlement. After secularization, large tracts of land were granted to individuals and families and the rancho system was established. Cattle ranching dominated other agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established during this period and Native American influence and control greatly declined. The Mexican Period ended when Mexico was forced to cede California to the United States after the Mexican-American War of 1846-48.

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Soon after American control was established (1848), gold was discovered in California. The Southern Overland or Gila Trail became a major thoroughfare for emigrants and livestock herds from 1848 through the mid-1870s. Beginning with the Mexican-American War of 1846-1848, until the completion of the Southern Pacific and Santa Fe Railroads in the mid-1870s, the San Felipe and San José Valleys became part of a major corridor for overland migration and communication along the Gila River route to California. It was initially used for military expeditions and followed earlier trails established by Spanish and Mexican explorers and Santa Fe traders. Invading American armies marching to California establishing the overland trail through Arizona along the Gila River to where it joined the Colorado River at present-day Yuma, Arizona. From the junction of the Gila and Colorado Rivers, the trail followed an already well-established route across the Colorado Desert and northward along the east side of the peninsular range through the San Felipe Valley, Warner's Pass, and San José Valley.

In 1857, overland mail service was established along the trail. It was the First Transcontinental Overland Mail Route, originally the James E. Birch route (1857), from El Paso to Yuma. This stage was to run twice a month with stops in the San Diego region that included Old Town San Diego, Mission San Diego, the Ames Ranch at Flinn Springs, the Williams Ranch near Alpine, Julian Sandoval's ranch near Descanso, Lassator Ranch near Green Valley, and through the Cuyamaca Mountains to Vallecito. Birch met an untimely death at sea and the route was taken over by John Butterfield the same year, and in 1858 he began running weekly stage routes that continued until 1861 as the Los Angeles, San Diego, and San Antonio Mail Line or as we casually call the Butterfield Stage Route. Stage routes were later followed by the Plank Road in 1912 that ran west to San Diego County, SR 80, and the Lee Highway.

The tremendous influx of American and Europeans that resulted during this time drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of de facto Native American control. Few Mexican ranchos remained intact because of land claim disputes and the homestead system increased American settlement beyond the coastal plain.

As early as 1890, settlers began to enter the Imperial Valley of California. Prior to this, many settlers and travelers passed through the valley on their way to San Diego or Los Angeles from Ft. Yuma on the Colorado River. People viewed the Imperial Valley as a barren wasteland that was subject to instant flooding and plagues of insects in addition to arid land and scorching heat throughout the year. A few settlers started the town of Imperial, and by 1900 many more settlers entered the valley and began to farm the land; however, no real development took place until water was brought into the area in 1901. This occurred with the construction of the Alamo Canal, which was a four mile-long waterway that connected the Colorado River to the head of the Alamo River. The canal was constructed in 1901 to provide irrigation to the Imperial Valley. A small portion of the canal was located in the United States but the majority of the canal was located in Mexico. The Alamo Canal is also known as the Imperial Canal, and by 1903 hydroelectric power was being harnessed as well. By 1904 the City of Imperial was officially formed. In 1905 there were a series of floods that diverted the Colorado River into the valley and the Salton Sea was formed. Imperial County, originally part of San Diego County, was founded August 7, 1907. The same year the cities of El Centro, Brawley, and Holtville were also formed.

By the mid-1920s 500,000 acres in Imperial Valley were being irrigated. In 1934 construction began on a new irrigation canal system for the valley that would be primarily on U.S. soil, the All-American Canal, which was completed in 1940. The population by this time had grown to more than 61,000 in Imperial Valley. In the 1950s and 1960s farmers were encouraged to level and tile their fields, and install concrete ditches. In 1950 there were approximately 1,550 farmers, today there are approximately 500 farmers in Imperial Valley.

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3.7.2.3 RECORDS SEARCH

A. Prior Research

A search for previously recorded cultural resources and investigations was conducted within a one mile buffer of the APE. The search included a literature review and South Coastal Information Center (SCIC) records search. The records check revealed that 26 investigations have been conducted within one mile of the APE (Table 3.7-2).

**TABLE 3.7-2
ARCHAEOLOGICAL INVESTIGATIONS WITHIN A ONE-MILE RADIUS OF THE APE**

NABD	Author	Project	Company	Location	Year
1100207	Davis	East & West Mesa Class II Cultural Resource Inventory	Westec Services	Gen-tie Line	1980
1100213	Bull	Proposed Imperial Valley Substation Cultural Resource Survey	RECON	One-Mile Buffer	1980
1100251	Schaefer	La Rosita to Imperial Valley Interconnection Project 230-kV TL Archaeological Survey Vol. I, Phase II	Cultural Systems Research, Inc.	Gen-tie Line	1981
1100262	CSRI	Proposed Imperial Valley Substation Overview & Assessment	Cultural Systems Research, Inc.	One-Mile Buffer	1982
1100289	Foster & Greenwood	La Rosita to Imperial Valley Interconnection Project 230-kV TL Cultural Resource Inventory	Greenwood & Associates	One-Mile Buffer	1983
1100311	Townsend	SWPL Cultural Resources Management Plan - Vol. II	Wirth Environmental Services	Gen-tie Line	1984
1100408	Pignoli	Imperial County Prison Alternatives Cultural Resource Study	Westec Services	CSE Footprint	1988
1100698	Hupp	Historical Architectural Survey Report for Pavement Rehabilitation and Shoulder, Bridge, Culvert Widening Project	Caltrans	One-Mile Buffer	1999
1100708	Haney	1st Addendum -Archaeological Survey Report for Pavement Rehabilitation and Shoulder/Bridge Widening Project along SR 98	Caltrans	One-Mile Buffer	1999
1100766	Schaefer, Palette, O'Neill, & Eighmey	Extended Phase I Study of 8 Archaeological Sites on SR 98 (CA-IMP-1427, -3969, -6914, -6915, -6916, -6918, -6920, -6923)	ASM Affiliates	One-Mile Buffer	1999
1100853	Hangan	Hunter's Alien Waters Cultural Resources Inventory Report	BLM	One-Mile Buffer	2001
1100873	BLM	Hunter's Alien Waters Cultural Resources Inventory Report	BLM	One-Mile Buffer	2001a
1100906	BLM	EA for Presidential Permit Applications for Baja CA Power, Inc & Sempra Energy Resources	BLM	Gen-tie Line	2001b
1100914	Buysse & Smith	Border Remote Video Surveillance Project, El Centro Sector Archaeological Survey Results	Brian F. Smith and Associates	One-Mile Buffer	2002
1100960	BLM	DEIS Imperial-Mexicali 230-kV TLs	BLM	Gen-tie Line	2004a
1100980	Berryman	230-kV Transmission Corridor from Imperial Valley Substation to the International Border	RECON	Gen-tie Line	2001a

**TABLE 3.7-2
ARCHAEOLOGICAL INVESTIGATIONS WITHIN A ONE-MILE RADIUS OF THE APE**

NABD	Author	Project	Company	Location	Year
		with Mexico Cultural Resource Survey			
1101037	BLM	Mesquite Mine Expansion Overview & Assessment	BLM	Gen-tie Line	2002
1101045	Caltrans	Supplemental Historic Property Survey Report	Caltrans	One-Mile Buffer	1999
1101057	Pigniolo, Phillips, & Gallegos	Mt. Signal & Dixie Ranch Imperial County Prison Alternatives Cultural Resource Study	ERC Environmental & Energy Services	CSE Footprint	1990
1101072	Berryman	Cultural Resource Treatment Plan: Two 230-kV Transmission Lines from Imperial Valley Substation to the International Border with Mexico	RECON	Gen-tie Line	2001b
Not yet assigned	Noah & Gallegos	Sunrise Powerlink Class III Inventory	Gallegos & Associate	One-Mile Buffer	2008
Not yet assigned	Hunt	Cultural Resources Survey of Alternatives for the Sunrise Powerlink Project in Imperial, Orange, Riverside, and San Diego Counties, California	SWCA	One-Mile Buffer	2008
Not yet assigned	Garcia-Herbst, Iverson, Laylander, & Williams	Class III Inventory for the Approved San Diego Gas & Electric Sunrise Powerlink Final Environmentally Superior Southern Route	ASM	One-Mile Buffer	2010
Not yet assigned	Zepeda-Herman, Shultz, & Price	Cultural Resources Survey for the Imperial Solar Energy Center South Project, Imperial County, California	RECON	Gen-tie Line	2010
Not yet assigned	Hupp	Historical Architectural Survey Report for Pavement Rehabilitation and Shoulder, Bridge, Culvert Widening Project	Caltrans	One-Mile Buffer	1999
Not yet assigned	Schaefer	The All-American Canal: An Historic resources Inventory and Evaluation	ASM Affiliates, Inc.	One-Mile Buffer	2001

Source: Laguna., 2011; kp, 2011a; ASM, 2011.

B. Previously Recorded Sites

A review of previously recorded sites in a region provides an idea of the types of cultural resources that might be expected within the APE. Ninety-four previously recorded cultural resources occur within a one-mile radius of the APE and are summarized in **Table 3.7-3**. Additional historic research included an examination of the National Register of Historic Places, the California Inventory of Historic Resources, and the California Historical Landmarks.

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**TABLE 3.7-3
RECORDED CULTURAL RESOURCES WITHIN A ONE-MILE RADIUS OF THE APE**

Site Number	Type	Age	Location	NRHP Eligibility
CA-IMP-115	Habitation Site	Prehistoric	Gen-tie Line	Recommended NRHP Eligible
IMP-115-S-2	Ceramic and lithic scatter	Prehistoric	Gen-tie Line	Recommended eligible
IMP-115-S-3	Sparse lithic scatter	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-S-4	Lithic scatter	Prehistoric	Gen-tie Line	Recommended eligible
IMP-115-S-5	Lithic scatter	Prehistoric	Gen-tie Line	Recommended eligible
IMP-115-S-6	Sparse lithic scatter	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-S-7	Sparse lithic scatter	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-ISO-12	Quartzite retouched flake	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-ISO-19	Black Mesa/Tumco Ceramic	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-ISO-20	Metavolcanic assayed cobbles	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-ISO-21	Metavolcanic assayed cobble & flake	Prehistoric	Gen-tie Line	Recommended not eligible
IMP-115-ISO-23	Chert flake	Prehistoric	Gen-tie Line	Recommended not eligible
CA-IMP-211	Temporary Camp	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-357	Isolate Axe	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-913	Isolate Knife	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-1144	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-1239	Lithic Scatter	Prehistoric	CSE Facility	Insufficient Data
CA-IMP-1241	Isolate Metate Fragment	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-1242	Lithic & Ceramic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-1243	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-1248	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-1395	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-1400	Isolate Pottery Sherd	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-1402	Isolate Pottery Sherds	Prehistoric	Gen-tie Line	Recommended not eligible
CA-IMP-1403	Isolate Pottery Sherds	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-2407	Ceramic Scatter	Prehistoric	One-Mile	Recommended not eligible

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**TABLE 3.7-3
RECORDED CULTURAL RESOURCES WITHIN A ONE-MILE RADIUS OF THE APE**

Site Number	Type	Age	Location	NRHP Eligibility
			Buffer	
CA-IMP-2597	Rock-Lined Fish Trap	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-3175	Temporary Camp	Prehistoric	One-Mile Buffer	Recommended not eligible Not relocated in 2001
CA-IMP-3176	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-3920	Isolate Mano Fragment	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-3956	Isolate Jasper Tool	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-3957	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-3958	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-3992	Isolate Pottery Sherd	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-3993	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-3994	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-3999	Temporary Camp	Prehistoric	Gen-tie Line	Recommended eligible
CA-IMP-4002	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4127	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4244	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4246	Isolate Pottery & Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4353	Isolate Pottery & Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4354	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4499	Ceramic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4500	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4501	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4502	Pot Drop	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4503	1920s Trash Dump	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-4504	Isolate – Two Tumco Buff Potsherds	Prehistoric	One-Mile Buffer	Recommended not eligible

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**TABLE 3.7-3
RECORDED CULTURAL RESOURCES WITHIN A ONE-MILE RADIUS OF THE APE**

Site Number	Type	Age	Location	NRHP Eligibility
CA-IMP-4510	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-4511	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4512	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-4959	Temporary Camp	Prehistoric	Gen-tie Line	Recommended eligible
CA-IMP-4961	Artifact Scatter	Prehistoric	Gen-tie Line	Recommended not eligible
CA-IMP-5046	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-5297	Isolate Flakes	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5298	Isolate Bifacial Mano	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5496	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-5585	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5586	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5587	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5588	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5589	**Site Record Missing**	-	One-Mile Buffer	Insufficient Data
CA-IMP-5590	Isolate Salton Buff Potsherd & Quartzite Scraper	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5592	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5593	Sparse lithic scatter	Prehistoric	Gen-tie Line	Recommended not eligible
CA-IMP-5632	Isolate Pottery	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-5684	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-6641	lithic/ceramic scatter	Prehistoric	One-Mile Buffer	Recommended not eligible Not relocated in survey APE (collected in 1956)
CA-IMP-6680	Isolate Scraping Tool	Prehistoric	One-Mile Buffer	Recommended not eligible Not relocated/Not collected
CA-IMP-6681	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-6682	Isolate Scraping Tool	Prehistoric	One-Mile Buffer	Recommended not eligible

3.7 CULTURAL RESOURCES

**TABLE 3.7-3
RECORDED CULTURAL RESOURCES WITHIN A ONE-MILE RADIUS OF THE APE**

Site Number	Type	Age	Location	NRHP Eligibility
CA-IMP-6683	Isolate Scraping Tool	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-6684	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
CA-IMP-6882	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-6883	WWII Military Training Camp	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-6884	WWII Military Training Camp	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-7130H	All American Canal	Historic	One-Mile Buffer	Recommended eligible
CA-IMP-7638	Spirit Breaks" Linear Features "	Prehistoric	One-Mile Buffer	Recommended eligible
CA-IMP-7642	Habitation Site	Prehistoric	One-Mile Buffer	Recommended eligible
CA-IMP-7873	Lithic & Ceramic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-7875	Lithic scatter	Prehistoric	Gen-tie Line	Recommended not eligible
CA-IMP-8334	Ceramic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8403	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8405	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8406	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8430	Artifact Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8433	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8434	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8435	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8436	Temporary Camp	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8439	Artifact Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8720	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8721	Lithic Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8793	Artifact Scatter	Prehistoric	One-Mile Buffer	Insufficient Data
CA-IMP-8955	Lithic Scatter	Prehistoric	One-Mile	Insufficient Data

3.7 CULTURAL RESOURCES

**TABLE 3.7-3
RECORDED CULTURAL RESOURCES WITHIN A ONE-MILE RADIUS OF THE APE**

Site Number	Type	Age	Location	NRHP Eligibility
			Buffer	
CA-IMP-3406H	Crossed Wagon Road, N. of W.	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-3408H	Cross Emigrant Trail	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-3413H	Crossed Wagon Road, NW	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-4245H	Historic Dumpsite	Historic	One-Mile Buffer	Insufficient Data
CA-IMP-5594H	Multi-component Site: Flake/Pottery Sherds & Ordnance Tip	Prehistoric/ Historic	One-Mile Buffer	Insufficient Data
CA-IMP-8445H	Rock Cairns/USGLO 1/4 Section Markers	Historic	One-Mile Buffer	Insufficient Data
D2-I-292	Isolate		One-Mile Buffer	Recommended not eligible
D2-I-293	Isolate		One-Mile Buffer	Recommended not eligible
D2-S-577	Unknown G&A data		One-Mile Buffer	Insufficient Data
D2-S-743	Unknown G&A data		One-Mile Buffer	Insufficient Data
P-13-008983	Wormwood Canal	Historic	Portions within survey APE	Recommended not eligible
P-13-009122	Isolate Core & Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
P-13-009709	Isolate Debitage	Prehistoric	One-Mile Buffer	Recommended not eligible
P-13-009862	Isolate Flake	Prehistoric	One-Mile Buffer	Recommended not eligible
ISO-10	Granite metate fragment	Prehistoric	Gen-tie Line	Recommended not eligible
ISO-11	Metavolcanic flake	Prehistoric	Gen-tie Line	Recommended not eligible
ISO-12	Black Mesa/Tumco Ceramic	Prehistoric	Gen-tie Line	Recommended not eligible
ISO-64	Black Mesa/Tumco Ceramic	Prehistoric	Gen-tie Line	Recommended not eligible
S-5	Ceramic and lithic scatter	Prehistoric	Gen-tie Line	Recommended eligible
S-38	Ceramic and lithic scatter	Prehistoric	Gen-tie Line	Recommended eligible

Source: Laguna., 2011; kp, 2011a; ASM, 2011.

Historic maps of the area were also examined for potential cultural resources. The township plat map of the area, based upon surveys in the 1850s and 1880s, shows no structures in the township, but does

indicate the San Diego to Yuma road near the project area. The 1908 edition of the El Centro 15' USGS Quadrangle reprinted in 1915 shows the project area had been developed for agriculture at that time, but does not show individual structures. The Westside Main Canal and Wormwood Canal are labeled on this map. Blue lines indicating the locations of the current Woodbine Canal, Laterals 2, 7, and 8, and the Mt. Signal Drain are also shown within the Project APE but are not labeled as such.

The Soils Bureau El Centro Sheet, dated 1918, shows 11 structures within the APE. Three structures are shown within the southern portion of the Simmons property, one in the southeast end of the LeCrivain parcel, one is at the northwest corner of the Iliff parcel, and one at the southeast corner of the Wilson parcel. Another structure is located diagonally across from the Wilson parcel in the northwest corner of the Bishop property at the intersection of Kubler Road and Pulliam Road. One structure is located on the eastern edge of the Bishop property along Brockman Road, while another is at the southeast corner of the Simmons northern parcel along Brockman Road. Two structures are shown south of SR 98 within the Dessert property.

These were probably early farmhouses in the area. The 1947 edition of the Heber 15' USGS Quadrangle shows roughly the same structures as those in 1918 at the same locations. The 1957 edition of the Mount Signal 7.5' USGS Quadrangle shows the same structures within the project area in the same pattern. At the present time only the two structures along Pulliam Road remain in these locations today, the rest being eliminated in the process of increasing agricultural fields.

3.7.2.4 FIELD INVENTORY RESULTS

A. Cultural Resource Survey Results (CSE Facility and Gen-tie Line-Private Lands)

The field investigations identified 13 historic cultural resources within the APE and added to a portion of a previously recorded resource. These include two additional portions of the previously recorded Wormwood Canal (P-13-008983) along with segments of the Woodbine Canal (P-13-013073), the Woodbine Lateral 7 (P-13-013074), Woodbine Lateral 7A (P-13-013075), Woodbine Lateral 2 (P-13-013076), Woodbine Lateral 8 (P-13-013077), a portion of the Brockman Drain (P-13-013078), portions of the Mt. Signal Drain (P-13-013079), a southern portion of Mt. Signal Drain 1 (P-13-013080), the Carpenter Drain (P-13-013081), and Wells Drain (P-13-013082), as well as two historic residences (P-13-013083 and P-13-013084), and an isolated historic glass artifact (P-13-013085). The resources are summarized in **Table 3.7-4** and described in more detail below. The previously recorded prehistoric site was not relocated. No evidence of nine of the structures shown on historic maps within the APE was identified. The structures on the 1918 soils map were probably short-lived farm houses that were removed after agricultural consolidation prior to the Great Depression.

**TABLE 3.7-4
SUMMARY OF CULTURAL RESOURCES WITHIN THE APE**

Resource	Resource Type	Resource Name/Description (Comment)	NRHP Eligibility
Prehistoric			
CA-IMP-6641	Lithic/ceramic scatter	not relocated (collected in 1956)	Recommended not eligible
Historic			
P-13-008983	Irrigation canal	Wormwood Canal (2 portions)	Further evaluation for eligibility
P-13-013073	Irrigation canal	Woodbine Canal (2 portions)	Further evaluation for eligibility
P-13-013074	Irrigation canal	Woodbine Lateral 7 (partial)	Further evaluation for eligibility
P-13-013075	Irrigation canal	Woodbine Lateral 7A	Further evaluation for eligibility
P-13-013076	Irrigation canal	Woodbine Lateral 2 (partial)	Further evaluation for eligibility
P-13-013077	Irrigation canal	Woodbine Lateral 8	Further evaluation for eligibility
P-13-013078	Agricultural drain	Brockman Drain (partial)	Further evaluation for eligibility
P-13-013079	Agricultural drain	Mt. Signal Drain (2 portions)	Further evaluation for eligibility
P-13-013080	Agricultural drain	Mt. Signal Drain 1 (partial)	Further evaluation for eligibility
P-13-013081	Agricultural drain	Carpenter Drain	Further evaluation for eligibility
P-13-013082	Agricultural drain	Wells Drain (partial)	Further evaluation for eligibility
P-13-013083	Historic-age structure	601 Pulliam Rd. residence	Further evaluation for eligibility
P-13-013084	Historic-age structure	598 Pulliam Rd. residence	Further evaluation for eligibility
P-13-013085	Historic glass isolate	Sun-colored amethyst glass vessel handle fragment	Recommended not eligible

Source: Laguna, 2011.

CA-IMP-6641

This site was originally recorded in 1956 during the Archaeological Survey Association (ASA) volunteer research program studying Lake Cahuilla shorelines. Material from the site was collected during that survey. This included five Tizon Brown Ware rim sherds and four body sherds, one drilled buffware sherd and 35 additional body sherds, one quartzite hammerstone, one fine-grained volcanic hammerstone, one fine-grained volcanic core, two fine-grained volcanic scrapers, two chert flakes, four quartz flakes, one petrified wood flake, three fine-grained volcanic flakes, one porphyritic volcanic flake, and one quartzite flake. It is unclear if this was a sample surface collection or a complete surface collection. The site form mentions a receding Lake Cahuilla shore line at the site, which is at an elevation of 17 feet below sea level. It is of interest that this site was collected as part of this survey as most of the ASA work was along the higher 40-foot elevation shoreline. Surface visibility in this portion of the project area was approximately 90 percent and no surface evidence of the site was relocated within the project area.

Wormwood Canal (P-13-008983)

The survey recorded two additional segments of the previously recorded Wormwood Canal, roughly 1.4 miles apart. The northern portion is a north-south aligned 0.75 mile long segment that parallels the east side of Wormwood Road on the western border of the Simmons property, north of Fisher Road. This segment continues northward out of the APE for several miles towards the town of Seeley. An east-west aligned segment heads west south of Fisher Road but outside the APE.

The southern portion within the APE is an irregular alignment roughly 2.3 miles long situated east of the major Westside Main Canal. The segment was recorded at the north end of the Brundy property, starting approximately 117 feet west of the western end of Kubler Road, heading south paralleling Mandrapa Road then crossing SR 98 some 1.5 miles south of Kubler Road, and extending south-southeast another 0.8 miles along the western edge of the West-Gro parcel.

A “1964” date stamp was noted on a flow gate along the northern portion, but no other date stamps were observed. The canal varies in width from roughly 11 to 15 feet across at the top (depth is unknown since the canal was full of water). The canal segments appear to be well-maintained and the integrity is good in spite of the recent earthquake activity in the area.

Woodbine Canal (P-13-013073)

Two portions of the western portion of the Woodbine irrigation canal were recorded during the survey. The east-west aligned 0.5 mile long western-most segment parallels the north side of Kubler Road on the southern border of Section 5, below the Iliff and Wilson parcels. Another 0.5 mile east-west aligned portion was recorded along the southern boundary of the Simmons northern property. The north-south oriented segment runs from the southwest of the intersection of Kubler Road and Brockman Road down the west side of Brockman Road along the eastern border of the Bishop property. At SR 98, the canal heads east paralleling the north side of the highway along the southern boundary of the Yang and Chen parcels ending just west of Rockwood Road. The canal continues eastward for over seven miles to Anza Road.

The unlabeled Woodbine Canal is shown on the 1908 El Centro 15’ USGS quadrangle map, however, the canal channel was lined with concrete at a later date, sometime in the late 1950s/early1960s. There is a “1957” date stamp on a small elevation drop at the northwestern corner of Brockman Road and SR 98, and two gates along the north-south segment have “1979” date stamps. The segment of the canal between the two 1979 dated gates has concrete of a different appearance indicating an even more recent replacement.

The segment of the canal is roughly 13 feet across at the top, but depth is unknown since the canal was full of water. Features associated with the canal include a small elevation drop, gate openings to the lateral canals, a gate along the canal itself, and the Brockman Road undercrossing. The canal segments appear to be well-maintained and the integrity of the features is good.

Woodbine Lateral 7 (P-13-013074)

This east-west aligned one mile long lateral canal, coming off the main Woodbine Canal to the east, is situated on the north side of SR 98 along the southern border of the Bishop property, between Pulliam Road on the west and Brockman Road at the east. The canal continues to the north for 0.5 miles but in the next parcel to the west, outside of the current survey boundary.

This canal system was lined with concrete sometime in the late 1950s/early1960s. There is a “1957” date stamp in the concrete of a flow gate at the northeastern corner of Pulliam Road and SR 98; a second gate to the east appears contemporaneous, but is unmarked. A “1979” date stamp is present where the lateral connects to the main Woodbine Canal to the east. The canal is roughly 11.5 feet across at the top. Depth is unknown since the canal was full of water. The elevation varies from approximately 14 feet below sea level at the main canal, dropping to 17 feet below sea level at the west end. The integrity of the canal is good in spite of the earthquake activity that has been occurring in the area.

Woodbine Lateral 7A (P-13-013075)

This approximately 2,785 foot long supplemental earthen canal extends west from the main Woodbine Canal at Brockman Road, situated along the southern border of Bishop parcels -077 and -034 and ending just south of the Brockman Drain channel. This lateral canal appears to be occasionally maintained by excavation and removal of sediment although it is currently overgrown in some areas. The top of the canal maintains an average width of 10 feet. Just over 0.25 miles west of Brockman Road are two concrete control gates. One of these has a date stamp of “1954” but the other gate is unmarked. The integrity of the canal is fair.

Woodbine Lateral 2 (P-13-013076)

The northern approximately 1,948 foot long portion of the Woodbine Lateral 2 irrigation canal was recorded during the current survey. This north-south aligned lateral canal bisects the main Woodbine Canal as well as SR 98; the southern portion extends south into Section 15 (not a part of this study). The elevation is approximately 12 feet below sea level just north of SR 98 and deepens to approximately 18 feet below sea level at the northern termination.

This lateral is identified as the “Woodbine Lateral 2” on the 1957 edition of the Mount Signal 7.5’ USGS Quadrangle, but this portion is lined with relatively recent cement, likely reflecting a 1970s-era canal improvement program. No date stamps were observed along the concrete-lined canal to indicate age. The canal appears to be well-maintained and the integrity is good.

Woodbine Lateral 8 (P-13-013077)

The north-south aligned Woodbine Lateral 8 irrigation canal begins approximately 100 feet north of the centerline of Kubler Road and extends approximately 2,600 feet north to just south of Fisher Road. This canal is present on the 1918 soils map, but is not labeled; but is labeled on the 1957 edition of the Mount Signal 7.5’ USGS quadrangle. It is lined with relatively recent cement, likely reflecting a 1970s-era canal improvement program. No date marks are present along the channel lining. The segment appears to be well-maintained and the integrity is good.

Brockman Drain (P-13-013078)

Two segments of the Brockman Drain earthen drainage channel were recorded beginning at the center of the Bishop property, extending north for approximately 2,740 feet. From here, a second channel flows west for approximately 2,410 feet and then goes under Pulliam Road and outside of the study area. Observed on USGS and aerial maps, this drainage channel continues to the west of Pulliam Road for approximately 1,327 feet, draining into the larger Mt. Signal Drain.

The channel appears to be occasionally maintained by excavation and removal of sediment although it is currently overgrown in some areas. The top of the channel maintains an average width of 10 feet. Concrete culverts are present at road undercrossings and where the channel changes directions. None of the concrete gates have a date stamp, so construction period of these is uncertain. The integrity of the drain is fair.

Mt. Signal Drain (P-13-013079)

The Mt. Signal Drain is shown on the USGS quadrangle to meander for nearly four miles beginning one mile south of SR 98 (at -6 ft. elevation) and ultimately emptying into Greeson Wash about 0.6 miles south of Lyons Road (at -45 ft. elevation). Only two portions of this earthen irrigation drainage channel occur within the APE however. The southern portion within the APE occurs south of SR 98 (between

Drew and Pulliam roads) along the east side of the West-Gro parcel to where it continues outside the APE.

The northern portion continues on a north-south alignment from Section 8 entering the APE on the north side of Kubler Road. This segment extends approximately 2,390 feet along the boundary between the Iliff and Wilson parcels averaging about 55 feet across, and then heads east just south of Fisher Road for approximately 1,190 feet to the west side of Pulliam Road. The top width of this segment varies from 60-75 feet across. The longest segment has a northeasterly alignment for 2,500 feet, starting on the north side of Fisher Road extending along the southeastern border of the northern Simmons property. This portion of the drain is 70-80 feet across from bank to bank.

No historic-age features were observed within these portions of the drain, but it is part of the larger historic-age agricultural system. The drain appears to retain good integrity and is probably maintained by regular clearing with a backhoe.

Mt. Signal Drain 1 (P-13-013080)

The Mt. Signal Drain 1 is a drainage branch beginning south of SR 98 that feeds into the “main” Mt. Signal Drain, merging at the center of Section 8. Only a small segment of this earthen irrigation drainage channel is within the southwestern portion of the APE. This southeasterly aligned 0.25 mile segment lies about 100 feet northeast of the Westside Main Canal. It parallels the eastern side of Mandrapa Road along the western border of the West-Gro parcel.

No historic-age features were within this portion of the drain, but it is part of the larger historic-age agricultural system. The drain is currently overgrown with vegetation but it is probably cleared at regular intervals.

Carpenter Drain (P-13-013081)

The Carpenter Drain is an east/west aligned earthen drainage channel beginning 0.5 miles west of Brockman Road extending westward to 0.5 miles east of Drew Road, paralleling the south side of SR 98 along the northern border of the Dessert property. The approximately one mile long channel empties into the north-south aligned Mt. Signal Drain. It appears to be occasionally maintained by excavation and removal of sediment although it is currently overgrown in many areas with native plants and non-native grasses. The top of the channel maintains an average width of about 25 feet. The integrity of the drain is fair.

Concrete culverts and road “under-crossings” are present but no date stamps were observed, but it is part of the larger historic-age agricultural system and appears to probably reflect the 1950s construction/improvement period.

Wells Drain (P-13-013082)

The northern portion of this earthen drainage channel was recorded along the western border of the Yang property. The north/south segment, starting on the north side of SR 98, extends approximately 1,840 feet to where it turns eastward. The east/west aligned segment runs approximately 1,044 feet at a slight northerly angle, before it exits the northern parcel boundary. The top of the channel maintains an average width of 10 feet.

No historic-age features were within this portion of the drain, but it is part of the larger historic-age agricultural system and appears to probably reflect the 1950s construction/improvement period. It

appears to be occasionally maintained by excavation and removal of sediment although it is currently overgrown in many areas with native plants and non-native grasses. The integrity of the drain is fair.

601 Pulliam Road (P-13-013083)

This resource is a residential structure located at the southeast corner of the LeCrivain property (at approximately 601 Pulliam Road). The Soils Bureau El Centro Sheet, dated 1918, shows a structure at this location. The current structure appears to date to the late 1940s and is consistent with the World War II-era agricultural boom in the area. This locale contains a residence and associated older trees and landscaping within an approximately 270 feet north/south by 120 feet east/west area at the corner of the tilled fields.

Because this area has probably been excluded from agricultural tilling disturbance, the potential for subsurface features related to the earlier structure in this location remains. Although not well-maintained, the current structure retains its context and integrity. The east-west Woodbine Canal is approximately 130 feet south of the house on the north side of Kubler Road.

598 Pulliam Road (P-13-013084)

This resource is a residential structure located at the northwest corner of the Bishop property (at approximately 598 Pulliam Road). The 1918 Soils Bureau El Centro Sheet shows a structure at this location. However, the current structure is made from concrete block (set on block pilings) suggesting post-World War II construction. The residence is located in a triangular area excluded from agriculture at the southeast corner of Pulliam Road and Kubler Road. The triangular area is approximately 265 feet north/south by 270 feet east/west on the shortest axes.

In addition to the structure the area also includes a cluster of large tamarisk trees and what appears to be a concrete-capped well. The structure appears to date to the late 1940s based on architectural style and materials. Buried refuse that does not appear to be historic in age was observed south of the structure and appeared to have been burned prior to deposition. Because this area has probably been excluded from tilling disturbance, the potential for subsurface features related to the earlier structure in this location remains. Although not well-maintained, the current structure retains its context and integrity. The east-west Brockman Drain channel borders the property immediately on the north and the east-west Woodbine Canal is approximately 130 feet north of the house, across Kubler Road.

Historic Isolate (P-13-013085)

This historic isolate glass item was found near a heavily disturbed area containing recent trash disposal. The area just south of the isolate is currently used as an illegal refuse disposal site for trash and green waste. The recent trash consisted of rubber tires, cement, wood pallets, grubbed vegetation, beer/soda cans and glass bottles, window glass, and paint cans.

The 4 to 5 inch long handle portion is probably from a pitcher or similar vessel. The amethyst color is due to the use of the element manganese, which was phased out of glass production by 1930 for such glassware. The surface is pitted and abraded by wind-blown sand. No other items of historic age were observed in the area, but there is a possibility of additional historic material in this area.

B. Cultural Resource Survey Results (Gen-tie Line-BLM Lands)

The field investigations identified six previously recorded sites, which were updated, and ten newly recorded cultural resources (one site and nine isolates) within the APE. Of the 16 cultural resources

3.7 CULTURAL RESOURCES

identified, 14 are prehistoric and 2 are historic. The resources are summarized in **Table 3.7-5** and described in more detail below.

**TABLE 3.7-5
SUMMARY OF CULTURAL RESOURCES WITHIN THE APE**

Site Number	Resource Type	Eligibility Recommendations
Prehistoric		
CA-IMP-1403	Isolate -Two Ceramic Sherds	Not Recommended Eligible -Not Relocated
CA-IMP-3999	Temporary Camp Site	Recommended Eligible: D
CA-IMP-4246	Isolate -Ceramic Sherd & Flake	Not Recommended Eligible -Not Relocated
CA-IMP-5297	Isolate -Two Flakes	Not Recommended Eligible -Artifacts previously collected
CA-IMP-6681	Isolate -Flake	Not Recommended Eligible -Artifact previously collected
CA-IMP-7873	Ceramic & Lithic Scatter	Recommended Eligible: D
CA-IMP-11638	Lithic Scatter	Not Recommended Eligible
P-13-13554	Isolate -Two Ceramic Sherds	Not Recommended Eligible
P-13-13555	Isolate -Two Ceramic Sherds	Not Recommended Eligible
P-13-13556	Isolate -Ceramic Sherd	Not Recommended Eligible
P-13-13557	Isolate -Core	Not Recommended Eligible
P-13-13558	Isolate -Four Ceramic Sherds from the same vessel & Core	Not Recommended Eligible
P-13-13559	Isolate -Two Flakes	Not Recommended Eligible
P-13-13560	Isolate -Flake	Not Recommended Eligible
Historic		
P-13-13552	1928 GLO Survey Marker	Recommended Eligible: A
P-13-13553	Isolate -Glass Medicine Bottle (1920s-1960s) and Milk Can	Not Recommended Eligible

Source: Laguna, 2011.

Newly Recorded Resources

CA-IMP-11638

CA-IMP-11638 is a small lithic scatter consisting of three artifacts. These include one black, fine-grained, porphyritic metavolcanic exhausted core. Located 34-meters to the northwest are one large, green fine-grained metavolcanic primary flake and one green, fine-grained porphyritic metavolcanic secondary flake. The site likely functioned as opportunistic stone sampling or tool maintenance.

P-13-13552

P-13-13552 is a round survey monument affixed to a metal pipe. The words U.S. GENERAL LAND OFFICE SURVEY T17S R12E and the date 1928 are stamped along the edges and across the center of the marker. A length of pipe with guy wires attached is lying beside the monument.

P-13-13553

P-13-13553 consists of two historic artifacts. One artifact is a clear, glass machine blown bottle. "This contains Mrs. Stewart's Bluing" is embossed around the shoulder of the bottle. This bottle was in production from the 1920's-1960. The second artifact is an evaporated milk can with a vent hole closure.

P-13-13554

P-13-13554 consists of two Tizon Brownware ceramic body sherds. Many OHV tracks (Border Patrol) traverse the area.

P-13-13555

P-13-13555 consists of two Colorado Buffware ceramic sherds. One sherd is a rim fragment and the other is a body fragment located 41 feet to the northeast.

P-13-13556

P-13-13556 consists of a single Colorado Buffware ceramic body sherd.

P-13-13557

P-13-13557 consists of a single basalt core.

P-13-13558

P-13-13558 consists of four Salton Buff ware ceramic body sherds that are from the same vessel and one large fine-grained metavolcanic core. Additionally, a faunal bone was found at this location. It was identified as a navicular (probably an artiodactyla naviculo-cuboid), and was subsequently collected by Deputy Barron of the Imperial County Coroner's office.

P-13-13559

P-13-13559 consists of one quartzite flake and one black, fine-grained metavolcanic flake.

P-13-13560

P-13-13560 consists of a single green, fine grained porphyritic metavolcanic primary flake.

Updated Sites

CA-IMP-1403

CA-IMP-1403 was first recorded in 1976 as two isolated Yuman sherds. The sherds were not relocated during a survey performed by RECON in 2010 and were also not relocated during the current survey.

CA-IMP-3999

CA-IMP-3999 is a prehistoric temporary camp that was first documented in 1981. The site was revisited and updated by Greenwood and Associates in 1983 during an SDG&E corridor survey for the La Rosita to Imperial Valley Interconnection project. The site was determined to be potentially eligible for the NRHP at that time.

The site was relocated and updated in 1996 and again in 2001 during a 230-kV transmission corridor survey from the U.S. - Mexico international border to the Imperial Valley Substation. The boundary was expanded and an evaluation excavation was conducted in areas of the site that would be impacted by

construction activities. Ten surface scrapes and 19 shovel test pits were excavated. It was determined that the tested portion of the site was ineligible for the NRHP. However, the portions that had not been tested should be considered potentially eligible for the NRHP.

In 2010, a Class III Cultural Resources Survey for the Imperial Solar Energy Center South Project relocated the site. Artifacts identified included 50 Black Mesa/Tumco Buff ceramic sherds, 20 Tizon Brown Ware ceramic sherds, a Tizon pot drop (at least 37 sherds), one sandstone metate, one metate fragment, one quartzite hammerstone, one fine-grained porphyritic metavolcanic (FGPM) hammerstone, one fine-grained metavolcanic (FGM) retouched flake, 48 FGPM flakes, four FGM flakes, five quartzite flakes, one chert flake, and scattered fire affected rocks. The boundary was extended to the southeast within the project area but it was not completely defined and expected to continue to the southeast.

During the current survey that covered the area adjacent to the eastern boundary of CA-IMP-3999 a single piece of burnt sandstone was identified. The site boundary has been extended to reflect the new information.

CA-IMP-4246

CA-IMP-4246 was first recorded in 1980 as an isolate consisting of one Salton Buff Ware sherd and one porphyry flake. These were not relocated during the current survey.

CA-IMP-5297

CA-IMP-5297 was first recorded in 1982 as an isolate consisting of two porphyritic volcanic flakes. The artifacts were mapped and collected at this time. The current survey did not observe any additional cultural material in the area.

CA-IMP-6681

CA-IMP-6681 was first recorded in 1983 as an isolate consisting of a single green porphyry flake. The artifact was mapped and collected at this time. The current survey did not observe any additional cultural material in the area.

CA-IMP-7873

CA-IMP-7873 was first recorded in April of 2001. It was described as a low density ceramic and lithic scatter. Artifacts consisted of five ceramic sherds and a fine grained metavolcanic flake. All five sherds were from the same Salton brown vessel. The site measured 14.35 by 5.8-meters. The site was relocated during the current survey and the boundaries were expanded to encompass an area approximately 30 by 30-meters. Artifacts identified included two porphyritic secondary flakes, two pieces of porphyritic debitage, one fine-grained metavolcanic flake, five body sherds, black exterior, fine temper with rounded quartz and feldspar inclusions and two outlying rim sherds, one of which was found in between two fresh tire tracks.

C. Historic Built Environment Resource Survey Results

The field investigations identified sixteen historic resources within the APE that are more than 45 years old: the Westside Main, Wormwood and Woodbine canals, the town of Mount Signal, three farm complexes, an agricultural building, and eight residential buildings (**Table 3.7-6**).

**TABLE 3.7-6
HISTORIC RESOURCES MORE THAN 45 YEARS OLD**

Resource	Date Built	Resource Type	Eligibility Recommendations
Westside Main Canal	ca. 1907	Canal	Recommended eligible
Wormwood Canal	1911	Canal	Recommended not eligible
Woodbine Canal	ca. 1915	Canal	Recommended not eligible
Mount Signal	ca. 1940-1965	District	Recommended not eligible
Brockman Ranch	ca. 1920	Farm complex	Recommended not eligible
1249 Anza Road	ca. 1950	Residence	Recommended not eligible
640 Brockman Road	ca. 1965	Residence	Recommended not eligible
644 Brockman Road	ca. 1940	Residence	Recommended not eligible
405 Drew Road	1940	Residence	Recommended not eligible
695 Drew Road	ca. 1900 and ca.1960	Farm complex	Recommended not eligible
706 Drew Road	ca. 1960	Residence	Recommended not eligible
1160 Kubler Road	ca. 1920	Agricultural building	Recommended not eligible
1596 Fisher Road	ca. 1940	Farm complex	Recommended not eligible
596 Pulliam Road	ca. 1950	Residence	Recommended not eligible
605 Pulliam Road	ca. 1950	Residence	Recommended not eligible
904 State Route 98	ca. 1920	Residence	Recommended not eligible

Source: ASM, 2011.

Westside Main Canal

Westside Main Canal was constructed ca. 1907 as part of the earliest irrigation system in the Imperial Valley. It was later connected to the All-American Canal which runs east-west north of the U.S.-Mexico border, as one of three main canals that receive water from the All-American Canal. The segment of the Westside Main Canal within the Project APE is approximately two mi. long, with 0.75 mi. of canal extending north from its intersection with State Route (SR) 98, and 1.25 mi. of canal extending south of the highway. The canal is approximately eight ft. deep and approximately 40 ft. wide. Numerous laterals extend from the canal into the Project area.

Wormwood Canal

The Wormwood Canal is a concrete-lined irrigation canal constructed in 1911 and modified in the 1960s. It is located east of the Westside Main Canal and flows east and south for approximately six miles, terminating at the northern end at the Wormwood Drain and at the southern end at the intersection of a Drew Road and SR 98. The canal is approximately 10 ft. wide and about six ft. deep and is accessible from Old Highway 80, SR 98, and Interstate 8.

Woodbine Canal

The Woodbine Canal is an irrigation canal constructed ca. 1915 and modified in the 1950s and 1960s. It is located east of the Westside Main Canal and flows east and south for approximately three miles in total length. The canal is approximately 10 ft. wide and six ft. deep and is accessible from Old Highway 80, SR 98, and Interstate 8.

Mount Signal

Mt. Signal is a small town and now abandoned roadside stop located on the southeast side of the intersection of W. SR 98 and Brockman Road. The town is comprised of eight buildings in close proximity: two commercial buildings, including the Mt. Signal Café; an industrial building complex of two buildings; and four residential buildings. A 1957 USGS topographic map indicates that this area has been historically referred to as (the town of) “Mt. Signal,” likely named after the nearby Signal Mountain (Cerro Centinela) located to the south of the district in Mexico. It is defined by its grouping of buildings and its most recognizable landmark, the Mt. Signal Café (now abandoned). The buildings are surrounded by dirt yards and nondescript parking areas. There is only one property which has a walled-in yard to delineate its property line.

Building 1: The building at 1201 W. SR 98 was constructed as a commercial building ca. 1965. It is a one-story vernacular building located on the southeast side of the intersection of SR 98 and Brockman Road. The commercial building is wooden frame and rectangular in plan, with a concrete foundation. The exterior is clad in brick siding. The roof is a low-pitched shed roof with wide eaves and clad in asphalt shingles and red clay tiles. On the north elevation, a concrete ramp leads to a full-width porch with a flat roof. The porch is supported by brick columns. The primary entrance is located within the porch and consists of two doors. The windows consist of aluminum sash windows. There appear to be no modifications to the building. Some features include a sign that reads, “Mt. Signal Café” on the west side of the restaurant and a neon-light star is situated on the northeast corner of the building. Landscape features include a gravel parking lot surrounding the property.

Buildings 2a and 2b: Buildings 2a and 2b were constructed as single family residences ca. 1965 and 1950, respectively. Both are single-family residences located to the west of Mt. Signal Café and south of SR 98. Both residences are situated behind walled complexes. Building 2a is a stucco residence with a one-room second story, a red clay tile roof, and one aluminum sliding window. The wall around the complex of Building 2a is adobe or plaster. Building 2b is a wood-clad building with a gable roof clad in asphalt shingles. The complex of Building 2b is surrounded by a wood fence. No other features of either building could be seen at the time of the survey.

Building 3: Building 3 was constructed as a single family residence ca. 1965. It is a one-story vernacular building located on the west side of Brockman Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in brick siding. The roof is a low-pitched hipped roof with moderate eaves and clad in red clay tiles. On the east elevation, a concrete pathway leads to a full-width porch with a shed roof. The porch is supported by brick columns. The primary entrance is located within the porch and consists of a partially glazed wood door. The windows consist of vinyl casement windows obscured by metal security bars. Modifications to the building include the replacement door. Landscape features include a dirt yard.

Building 4: Building 4 was constructed as a single family residence ca. 1948. It is a one-story vernacular building located on the west side of Brockman Road. The residence is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in stucco siding. The roof is a low-pitched side gable roof. The recessed porch is supported by wood posts. A low concrete block wall is located on either side of the porch. The primary entrance is located within the porch. The windows are primarily aluminum sliders. There appear to be no additions to the building. Modifications to the building include a boarded-over door on the south elevation. Landscape features include a dirt yard.

Building 5: Building 5 was constructed as a commercial building ca. 1940. It is a one-story building exhibiting elements of the Western False Front style and located on the south side of W. SR 98. The

commercial building has two components, both of which are wooden-framed and rectangular in plan, with concrete foundation. The exteriors are clad in concrete block and wood clapboard siding. The component on the east side has a Western False Front parapet made of wood boards. The roof of this component is flat. It also has wood sash windows and a primary door located on the north elevation. The second component to the east has a shed roof, wood sash windows, and a door located on the north elevation. Modifications to the building include the change in fenestration on the shed-roof building and door replacements.

Buildings 6a and 6b: Buildings 6a and 6b were constructed as a two-building industrial complex ca. 1940. The vernacular buildings are located on the south side of SR 98. The buildings are similar in shape and size, wooden-framed and rectangular in plan with concrete foundations. The exteriors are clad in asbestos shingle siding. The roofs are moderately pitched front gable roofs with asphalt sheets. The windows are primarily casements or boarded over. Modifications to the building include the boarding over of windows and doors. Landscape features include a dirt-and-gravel drive.

Brockman Ranch

The location of 513 Brockman Road was one of the first ranches in this area, constructed ca. 1920. Built by the Brockman family, the ranch includes eight vernacular buildings and a few smaller storage sheds that could not be seen from the road at the time of the survey. Modifications to the complex include the demolition of Building 5. Landscape features include mature trees along the road and plowed farm land surrounding the property.

Building 1 & Granary: Building 1 and the granary silos are located on the south side of the property. They appear to be the oldest structures constructed on the property, constructed circa 1920. The building is a two-story barn building with a wood frame and metal sheet siding. The roof is clad in metal sheets as well.

Building 2: Building 2 is located on the south side of the property lot north of Building 1 and the granary. It is a two-story barn building with a wood frame and clad in corrugated metal sheet siding. Corrugated metal sheets also clad the side gable roof. An attached carport structure is located on the north elevation.

Building 3: Building 3 is located on the south side of the property lot west of Brockman Road and east of Building 2. The building has one story and appears to be a secondary residence. It has a flat roof and concrete block siding. There is a porch on the east elevation, with a shed roof and latticework. No other details could be seen from the road.

Building 4: Building 4 is located on the west side of the property lot. It has a front gable roof clad in corrugated metal sheets. The windows are triple hung sash aluminum windows. The building is a single family residence and has concrete block siding and wood siding underneath the gable ends. There is also a shed-roofed, enclosed porch on the north elevation.

Building 5: Building 5 was located east of Building 4 and north of Buildings 2 and 3. Today this building has been demolished. Aerials from 2010 (Courtesy of Google Earth) indicate that the building was a one-story side gable single family residence with two front-gable dormer windows.

Building 6: Building 6 is a one-story shed-roof ancillary building. It has a door made of corrugated metal sheet siding. The building is clad in flat metal sheet siding.

Building 7: Building 7 is a one-story front-gable storage shed with no walls. The roof is supported by wood beams.

Building 8: Building 8 is a one-story concrete block ancillary building. No other features could be seen from the road at the time of the survey.

1249 Anza Road

The building at 1249 Anza Road was constructed as a single family residence ca. 1950. The one-and-one-half-story vernacular building is located on the south side of Anza Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in stucco siding. The roof is a moderately pitched front-gable roof with shallow eaves and clad in wood shingles. The main entryway could not be seen from the street at the time of the survey. The windows consist of double hung wood sash windows. There is a chimney located within the roofline. Additions could not be seen at the time of the survey. There is a garage located to the south of the main building. Landscape features include a chain-link fence, mature trees, and a lawn.

640 Brockman Road

The building at 640 Brockman Road was constructed as a single-family residence ca. 1965. The one-story vernacular building is located on the east side of Brockman Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in stucco and brick siding. The roof is a low-pitched side-gable roof with moderate eaves and clad in an asphalt roll. On the west elevation, a gravel driveway leads to the primary entrance and consists of a single door that is obscured by a metal security door. The windows consist of aluminum sliding windows. Additions include a shed roof extension on the north elevation. There appear to be no modifications to the building. Landscape features include trees, bushes, and a grass lawn.

644 Brockman Road

The building at 644 Brockman Road was constructed as a single-family residence ca. 1940. The one-story vernacular building is located on the east side of Brockman Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in vinyl siding. The roof is a moderately pitched front-gable roof with shallow eaves and clad in asphalt. On the west elevation, a short concrete walkway leads to the primary entrance, which consists of a vinyl door. The windows consist of double hung vinyl sliding windows. Additions include a shed-roof extension on the north elevation. Modifications to the building include the replacement windows, doors, and siding. Landscape features include a chain-link fence and a dirt yard.

405 Drew Road

The building at 405 Drew Road was constructed as a single-family residence in 1940. The one and one-half story, Craftsman-style building is located on the south side of Drew Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in stucco siding. The roof is a moderately pitched side-gable roof with wide eaves and clad in an asphalt roll. On the north elevation, wood steps lead to a full-width porch with a shed roof extension. The porch is partially enclosed by a low wall with wood columns. The primary entrance is located within the porch and could not be seen from the street at the time of the survey. The windows also could not be seen from the street at the time of the survey. There is a shed roof dormer window that has two vent openings. Additions include two shed roof extensions on either side of the main facade. Modifications to the

building include the non-original siding, as well as the attached garage extension. Landscape features include the chain-link fence that surrounds the perimeter of the property.

695 Drew Road

An agricultural complex at 695 Drew Road consists of two buildings located on the southeast side of the intersection of Drew and Fisher roads. The buildings include a main residence (Building 1) and a shop building (Building 2). Landscape features include mature trees, shrubbery, and a dirt yard with a chain-link fence surrounding the property.

Building 1

Building 1 was constructed as a single-family residence ca. 1960. The one-story building is wooden-framed and rests on a concrete foundation. The roof has a widely pitched cross gable. The siding is stucco with wood siding underneath the gable ends. The primary entrance is located on the east elevation. The windows are primarily vinyl. There is a chimney on the north elevation. No other features of the building could be seen from the road at the time of the survey.

Building 2

Building 2 is a shop building and was constructed ca. 1900. It is likely that it was originally constructed as a commercial building because of its small setback from the intersection of the road. The wood frame building has a front-gable roof. The primary entrance is located within the porch on the east elevation and is flanked by two large double hung sash windows. The extended front-gable porch roof is supported by two wood posts. There is also a large porch on the north elevation of the building that is enclosed by screens. No other features could be seen from the road at the time of the survey.

706 Drew Road

The building at 706 Drew Road was constructed as a single-family residence ca. 1958. The two-story Colonial Revival-style building is located on the east side of Drew Road. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in wood siding. The roof is a gambrel roof with split wood shingles and has two dormer windows. On the west elevation, a walkway and steps lead to a full-width porch with a shed roof and lined with latticework. The primary entrance is located within the porch and consists of a glazed door. The windows consist of vinyl sliders and vinyl fixed windows. Additions could not be seen from the street at the time of the survey. Modifications to the building include the carport extension on the north elevation. Landscape features include mature trees surrounding the property.

1160 Kubler Road

The building at 1160 Kubler Road was constructed as an ancillary agricultural building ca. 1920. The two-story vernacular building is located on the north side of Kubler Road and is part of a larger agricultural ranch complex. The barn is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in corrugated metal sheet siding. The roof is a low-pitched front-gable roof with exposed rafter tails and clad in standing seam metal. Additions include a shed-roof extension located on the east side of the building. There appear to be no modifications to the building. Other buildings within this complex include a mobile home, a modern barn, and shed and storage buildings.

1596 Fisher Road

1596 Fisher Road is an agricultural farm complex constructed ca. 1940, located at the northeast corner of the intersection of Drew and Fisher roads. The complex consists of several vernacular buildings, including a single family residence (Building 1), a large barrel-roof shop building (Building 2), and three storage sheds (Buildings 3a, 3b, and 3c.) A gazebo is also located on the property. Landscape features include a grass lawn surrounding the main residence and a chain-link fence around the building complex, as well as trees and other vegetation.

Building 1: Building 1 is a single-family residence constructed ca. 1940. It is a one-story vernacular building with a concrete pier foundation. The building has a low-pitched hipped roof with wide eaves. The siding is a wood composite sheet siding with decorative wood strips. The windows are primarily vinyl sash and sliders. The main entrance is located on the south elevation and could not be seen at the time of the survey. There is an addition on the north elevation of the building. Modifications include the replacement windows and additions. There is also a gazebo located southwest of the main residence on the southwest corner of the property lot.

Building 2: Building 2 is an ancillary building located on the northeastern section of the property lot. The building is comprised of metal siding and has a barrel-shaped roof. The windows are primarily aluminum sliding windows. There is a primary entrance on the west elevation that consists of two metal-hinged doors. There is also a metal carport extension located on the south side of this building.

Building 3a: Building 3a is one of three connected sheds located to the rear of the main residence. Building 3a is located at the northwestern part of the property lot. It is a front-gable, wood-sided building with a hinged awning garage door located on the west elevation. The building has a standing seam metal roof. To the south of this building is a flat roof extension that connects it to Building 3b.

Building 3b: Building 3b is located to the south of Building 3a and is also a front-gable shed with wood siding and an asphalt roof. There is one paneled door located on the west elevation. A flat roof extension is located on the south elevation of the building which connects the building to a covered walkway/shop area that is not enclosed and is north of Building 3c.

Building 3c: Building 3c is located to the south of Building 3b and is a front-gable ancillary building with wood siding and a corrugated metal sheet roof. There is a hipped porch roof extension that wraps around the north and west elevations of the building. This porch area is enclosed by screens and wood posts. No other features could be seen of this building from the street at the time of the survey.

596 Pulliam Road

The building at 596 Pulliam Road was constructed as a single-family residence ca. 1950. It is a one-story vernacular building located on the southeastern side of Pulliam and Kubler roads. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in a concrete block siding and vertical wood siding underneath the gable ends. The roof is a low-pitched side-gable roof with shallow eaves and clad in standing seam metal. On the west elevation, the main entrance is situated within a nearly full-width porch with a shed roof. Squared wooden posts support the porch roof. The windows consist of 9-light windows. There appear to be no modifications to the building. Landscape features include mature trees and a dirt yard.

605 Pulliam Road

The building at 605 Pulliam Road was constructed as a single-family residence ca. 1950. It is a one-story vernacular building located on the northwest side of Pulliam and Kubler roads. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in concrete block siding. The roof is a low-pitched side-gable roof with shallow eaves and clad in asphalt sheets. The primary entrance is located on the south elevation and consists of a wood door obscured by a metal security door. The windows consist of wood sash and casement windows. Modifications to the building include the screen awnings. Landscape features include mature trees and a dirt yard.

904 State Route 98

The building at 904 SR 98 was constructed as single-family residence ca. 1920. It is a one-and-one-half-story Craftsman-influenced building located on the north side of SR 98. The building is wood-framed and rectangular in plan, with a concrete foundation. The exterior is clad in wood clapboard siding. The roof is a low-pitched side-gable roof with exposed rafter tails and clad in corrugated metal sheets. On the south elevation, the primary entrance is located within the partial-width porch. The porch is covered by a shed roof extension of the main roof surface that is supported by wood posts. The windows could not be seen from the street at the time of the survey. Additions include a shed roof extension of the west elevation. Modifications to the building include replacement patch siding. Landscape features include trees and a wood and chain-link fence surrounding the property. There are other ancillary buildings on the property located to the rear of the main building that could not be seen from the street at the time of the survey.

3.7.2.5 NATIVE AMERICAN RELIGIOUS CONCERNS

A. Sacred Lands File

The Native American Heritage Commission provided a letter to Imperial County indicating that Native American Cultural Resources were not identified in the Sacred Lands File within a one-half mile radius of the APE.

3.7.2.6 NATIVE AMERICAN CONSULTATION

With the filing of the application for a right-of-way for the Project, the BLM, as the lead federal agency, invited tribes into consultation pursuant to the Executive Memorandum of April 29, 1994, as well as other relevant laws and regulations, including Section 106 of the NHPA. Archaeological resources may also qualify as "historical resources" and PRC § 5024 requires consultation with the State Office of Historic Preservation (SHPO) when a project may impact historical resources on state-owned land.

To date, fifteen Native American tribes have been identified and invited to consult on this project. The BLM invited the tribes into government-to-government consultation by letter on February 18, 2011. Local Native Americans were invited to participate in the field survey. The Cocopah Indian Tribe was able to send a representative out with the survey crew. With their consent, Native American input during the survey was documented in the daily survey log. Additional letters were sent to tribes on July 14, 2011, August 23, 2011, and August 30, 2011. The consultation process is still ongoing.

The BLM has invited tribes into consultation by letter dated February 18, 2011. The BLM anticipates a finding of no effect to historic properties and will request SHPO peer-review in this finding. The project has been redesigned to reach this no effect determination and the BLM has proposed eight conditions to ensure that any effects to historic properties will be avoided. The issuance of the BLM finding of no effect to historic properties and SHPO peer-review of this finding will complete the Section 106 process.

3.7 CULTURAL RESOURCES

The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA.

3.8 NOISE

Noise is defined as unwanted or annoying sound which interferes with or disrupts normal activities. Exposure to high noise levels has been demonstrated to cause hearing loss. The individual human response to environmental noise is based on the sensitivity of that individual, the type of noise that occurs and when the noise occurs.

The following discussion includes a variety of acronyms used to describe noise. To facilitate understanding of this section, the following glossary of terms is provided as an introduction to the environmental setting for noise. While some of the terms are technical in nature, it is not possible to substitute language as these acronyms and abbreviates are necessary with regard to describing and characterizing noise.

Sound is measured on a logarithmic scale consisting of sound pressure levels known as a decibel (dB). The sounds heard by humans typically do not consist of a single frequency but of a broadband of frequencies having different sound pressure levels. The method for evaluating all the frequencies of the sound is to apply an A-weighting to reflect how the human ear responds to the different sound levels at different frequencies. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as L_{eq} represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval.

The Community Noise Equivalent Level (CNEL) is the 24 hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections require an addition of 5 decibels to sound levels in the evening hours between 7 p.m. and 10 p.m. and an addition of 10 decibels to sound levels at nighttime hours between 10 p.m. and 7 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound appears louder.

Because mobile/traffic noise levels are calculated on a logarithmic scale, a doubling of the traffic noise or acoustical energy results in a noise level increase of 3 dBA. Therefore the doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of 3 dBA. Mobile noise levels radiate in an almost oblique fashion from the source and decrease at a rate of 3 dBA for each doubling of distance under hard site conditions and at a rate of 4.5 dBA for soft site conditions. Hard site conditions consist of concrete, asphalt and hard pack dirt while soft site conditions exist in areas having slight grade changes, landscaped areas and vegetation. In contrast, fixed or point sources radiate outward uniformly as it travels away from the source. Point source sound levels attenuate or decrease at a rate of 6 dBA for each doubling of distance. For example, a noise level of 87 dBA measured at 50 feet from the noise source would be reduced to 81 dBA at 100 feet from the source and be further reduced to 75 dBA at 200 feet from the source.

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods could be required to reduce noise levels to an acceptable level.

The decibel (dB) is the standard unit of measurement of noise. The decibel measurement is logarithmic which means that an increase of one decibel equates to a tenfold increase in the noise level. A noise level of zero (0) dB is barely audible and is considered the threshold of human hearing while noise levels in excess of 120 dB approach the pain threshold (e.g. jet engine noise). In between these extremes a quiet rural area with would have a sound levels of approximately 20 dB and normal speech has a sound level of approximately 60 dB.

The smallest change in sound level detectable by the human ear is approximately 3 dB. The average person perceives a change in sound level of 10 dB as a doubling (or halving) of the level of loudness.

Because the human ear is unable to differentiate differences in sound levels at all frequencies, a special frequency-dependent rating scale, referred to as A-weighted sound pressure level, or dBA, has been developed to relate noise to human sensitivity. A-weighting compensates for the variability in perceived noise levels by weighing some sound frequencies more than others. Community noise is measured using dBA.

Community Noise Equivalent Level, or CNEL, is another way to measure noise. CNEL represents the accumulated exposure to sound measured in a 24-hour sampling interval and artificially increased, or weighted, during certain hours of the day when individuals would be more sensitive to noise. For example, noise samples taken between the hours of 7 pm and 10 pm are boosted by 5 dB to reflect increased sensitivity to noise in evening hours. Similarly, noise samples taken during the overnight and early morning hours between 10 pm and 7 am are weighted by 10 dB to reflect even greater sensitivity to noise during the hours when most people would be sleeping. The CNEL scale is used by Imperial County for land use/noise compatibility assessment.

The equivalent sound level, or Leq, refers to the true equivalent sound level averaged over a sample length of time. Leq is the A-weighted steady sound level that contains the same total acoustical energy as the actual fluctuating sound level over the sample length of time.

3.8.1 REGULATORY FRAMEWORK

3.8.1.1 FEDERAL

A. The Noise Control Act of 1972 (P.L. 92-574)

The Noise Control Act and several other federal laws require the federal government to set and enforce uniform noise standards for aircraft and airports, interstate motor carriers and railroads, workplace activities, medium and heavy-duty trucks. Most federal noise standards focus on preventing hearing loss by limiting exposure to sounds of 90 dBA and higher. However, some are stricter and focus on limiting exposure to quieter levels that are annoying to most individuals and can diminish one's quality of life.

B. Occupational Safety and Health Act of 1970

The Federal Occupational Safety and Health Administration (OSHA) regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an 8-hour work shift (29 Code of Regulations [CFR] 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices testing employees for hearing loss on a periodic basis.

3.8.1.2 STATE

The California Occupational Safety and Health Administration (CalOSHA) has codified employee noise exposure limits as part of the State Occupational Noise Exposure Regulations (California Code of Regulations, Title 8, Section 5095–5099). The CalOSHA regulations are the same as the Federal OSHA standards in terms of dBA and duration.

The Governor’s Office of Planning and Research published the *State of California General Plan Guidelines 2003* to provide direction on preparation of the various elements of a General Plan. With regard to noise, “Appendix C - Guidelines for the Preparation and Content of the Noise Element of the General Plan” provides guidance for the acceptability of projects within specific noise contours. The Guidelines identify various land use categories and Table 1 includes adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of a specific community. Imperial County used the adjustment factors to modify the state’s Noise/Land Use Compatibility standards for the purpose of implementing the Noise Element of its General Plan.

3.8.1.3 LOCAL

A. County of Imperial General Plan

The Noise Element of the Imperial County General Plan identifies and defines existing and future environmental noise levels from sources of noise within or adjacent to the County; establishes goals and objectives to address these impacts, and provides Implementation Programs to implement these goals and objectives. **Table 3.8-1** summarizes the project’s consistency with the applicable General Plan noise policies.

While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.8-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Noise Element		
Programs and Policies		
<p>1) Acoustical Analysis of Proposed Projects</p> <p>The County shall require the analysis of proposed discretionary projects which may generate excessive noise or which may be impacted by existing excessive noise levels, including but not limited to the following:</p> <ul style="list-style-type: none"> • An analysis shall be required for any project which would be located, all or in part, in a Noise Impact Zone as specified above. • An analysis shall be required for any project which has the potential to generate noise in excess of the Property Line Noise Limits stated in Table 9. • An analysis shall be required for any project which, although not located in a Noise Impact Zone, has the potential to result in a significant increase in 	<p>Yes</p>	<p>A Noise Assessment was prepared for the project by Ldn Consulting, Inc., (Ldn, 2011b). Short-term construction and long-term operational noise levels were found to be less than established thresholds (refer to Section 4.8). The Noise Assessment is applicable to the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Therefore, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this policy. No facilities would be constructed as part of Alternative 4 – No Action/No Project so no noise analysis would be required.</p>

**TABLE 3.8-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>noise levels to sensitive receptors in the community.</p> <ul style="list-style-type: none"> An acoustical analysis and report shall be prepared by a person deemed qualified by the Director of Planning. The report shall describe the existing noise environment, the proposed project, the projected noise impact and, if required, the proposed mitigation to ensure conformance with applicable standards. 		
<p>2) Noise/Land Use Compatibility. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate potential noise/land use conflicts that could result from the implementation of the project. Projects which result in noise levels that exceed the "Normally Acceptable" criteria of the Noise/Land Use Compatibility Guidelines, Table 7, shall include mitigation measures to eliminate or reduce to an acceptable level the adverse noise impacts.</p>	Yes	Refer to analysis of Policy 1.
<p>5) New Noise Generating Projects. The County shall identify and evaluate projects which have the potential to generate noise in excess of the Property Line Noise Limits. An acoustical analysis must be submitted which demonstrates the project's compliance.</p>	Yes	Refer to analysis of Policy 1.
<p>6) Project Which Generate Off-site Traffic Noise. The acoustical analysis shall identify and evaluate projects which will generate traffic and increase noise levels on off-site roadways. If the project site has the potential to cause a significant noise impact to sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact to a level less than significant.</p>	Yes	Refer to analysis of Policy 1.

Noise Impact Zones

The Noise Element of the Imperial County General Plan identifies areas likely to be exposed to significant noise as a “Noise Impact Zone.” A Noise Impact Zone is defined as an area which may be exposed to noise greater than 60 decibels (dB) CNEL (Community Noise Equivalent Level) or 75 dB Leq. The purpose of the Noise Impact Zone is to define areas and properties where an acoustical analysis of a proposed project is required to demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards. For purposes of the Noise Element, any property meeting one of the following criteria is defined as being in a Noise Impact Zone:

- Within the Noise Impact Zone distances to classified roadways, as indicated in **Table 3.8-2**.
- Within 750 feet of the centerline of any railroad.
- Within 1,000 feet of the boundary of any railroad switching yard.
- Within the existing or projected 60 dB CNEL contour of any airport or approved ALUCP.
- Within one-quarter mile of existing farmland that is in an agricultural zone.

Distances to classified roadways within the noise impact zone are identified in **Table 3.8-2**.

**TABLE 3.8-2
ROADWAY NOISE IMPACT ZONES**

Roadway Classification	Distance from Centerline (Feet)
Interstate	1,500
State Highway or Prime Arterial	1,100
Major Arterial	750
Secondary Arterial	450
Collector Street	150

Source: Imperial County General Plan, Noise Element, no date.

Any noise sensitive land uses, such as residential land uses, located within the specified distances from the various roadways listed in **Table 3.8-2** are considered to be within a Roadway Noise Impact Zone. These zones are areas where the exterior noise level is expected to exceed the exterior noise standard and thus warrant further analysis to determine the level of impact to the specific land use and to develop any necessary noise mitigation measures.

Noise/Land Use Compatibility Standards

Land use compatibility refers to the acceptability of a land use in a specified noise environment. **Figure 3.8-1** provides the Imperial County Noise/Land Use Compatibility Guidelines. The figure includes acceptable and unacceptable community noise exposure limits for various land use categories as currently defined by the State of California. When an acoustical analysis is performed, conformance of the Proposed Action with the Noise/Land Use Compatibility Guidelines is used to evaluate the potential noise impact and will provide criteria for environmental impact findings and conditions for project approval.

The increase of noise levels generally results in an adverse impact to the noise environment. The Noise/Land Use Compatibility Guidelines are not intended to allow the increase of ambient noise levels up to the maximum without consideration of feasible noise reduction measures. The following guidelines are established by the County of Imperial for the evaluation of significant noise impact.

- a. If the future noise level after the Project is completed will be within the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, but will result in an increase of 5 dB CNEL or greater, the Project will have a potentially significant noise impact and mitigation measures must be considered.
- b. If the future noise level after the Project is completed will be greater than the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

Based on the nature of the project as a solar energy facility, and its location in an undeveloped, rural portion of the County, interior noise standards are not applicable to the project as no residential or other noise sensitive uses are located in the vicinity of the project site.

Land Use Category	Community Noise Exposure					
	L _{dn} or CNEL, db					
	55	60	65	70	75	80
Residential	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Transient Lodging – Motels, Hotels	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Sports Arena, Outside Spectator Sports	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Office Buildings, Business Commercial and Professional	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable
Industrial, Manufacturing Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable

Legend:



Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Imperial County General Plan, Noise Element, Table 7.

FIGURE 3.8-1
NOISE/LAND USE COMPATIBILITY GUIDELINES

Operational Noise Standards

Table 9 of the Noise Element identifies acceptable sound level limits based on the property's zoning (e.g. residential, commercial, etc). These noise level limits apply to noise generation from one property to an adjacent property (refer to Table 4.8-1 in Section 4.8) and imply the existence of a sensitive receptor on the adjacent, or receiving property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. The County's Property Line Noise Level Limits are intended to be enforced through the County's code enforcement program on the basis of complaints received from persons impacted by excessive noise. It must be acknowledged that a noise nuisance may occur even though an objective measurement with a sound level meter is not available. In such cases, the County may act to restrict disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

Construction Noise Standards

According to the Imperial County General Plan Noise Element, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB Leq, when averaged over an 8-hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB Leq when averaged over a 1-hour period.

Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9 a.m. and 5 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

B. Imperial County Noise Ordinance

Ordinance, Title 9, Division 7 (Noise Abatement and Control) Section 90702.00, Subsection A provides acceptable sound level limits based on the property zoning. The applicable property line sound level limits are applicable to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent property (refer to Table 4.8-1 in Section 4.8). In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. These standards do not apply to construction noise.

3.8.2 AFFECTED ENVIRONMENT

The noise analysis provided in this section is summarized from the Noise Assessment Centinela Solar Energy Project County of Imperial prepared by Ldn Consulting, Inc., (Ldn, 2011b). This document is provided on the attached CD of Technical Appendices as **Appendix F** of this EIR/EA.

3.8.2.1 EXISTING NOISE LEVELS

The project site is located in a rural, undeveloped portion of Imperial County characterized by agricultural uses. Noise measurements were taken on March 22, 2011 at two locations on the project site to determine existing noise levels (refer to Figure 4.8-1 in Section 4.8). Monitoring location M1 was located approximately 50 feet from State Route (SR) 98 near the intersection of Pulliam Road.

Monitoring location M2 was taken in the eastern portion of the site approximately 30 feet from Brockman Road at the intersection of Kubler Road. The measurements are presented in **Table 3.8-3**.

**TABLE 3.8-3
PROJECT SITE AMBIENT NOISE LEVELS**

Location	Description	Time	Noise Levels (dBA)					
			L _{eq}	L _{min}	L _{max}	L10	L50	L90
M1	Along State Route 98	11:45 a.m. – 12:00 p.m.	54.0	34.3	74.5	52.1	38.7	35.9
M2	Along Brockman Road	12:15 p.m. – 12:30 p.m.	50.8	33.8	71.1	51.8	41.6	37.2

Source: Ldn, 2011b.

The ambient Leq noise levels measured in project area during the late morning and mid-day were found to be between 50 and 58 dBA Leq on the western portion of the site and 90 percent (L90) the noise levels were 35 and 36 dBA. The ambient noise levels are below the County's acceptable limits for all sensitive uses. The existing noise levels in the project area consisted primarily of low traffic volumes along State Route 98 and Brockman Road and background noise from existing agricultural operations in the distances both on and adjacent to the site.

Corona Affect

The project site is located in a rural portion of the County dominated by agriculture and desert. The primary source of ambient noise in the area is the Corona Affect, audible power line noise that is generated from electric Corona discharge (i.e. the electrical ionization of the air that occurs near the surface of an energized conductor and suspension hardware due to very high electric field strength), which is usually experienced as a random crackling or hissing sound. The amount of Corona produced by a transmission line is a function of the voltage of the line, the diameter of the conductors, the locations of the conductors in relation to each other, the elevation of the line above sea level, the condition of the conductors and hardware, and the local weather conditions.

Corona increases at higher elevations where the density of the atmosphere is less than at sea level. Audible noise will vary with elevation with the relationship of $X/300$ where X is the elevation of the transmission line above sea level measured in meters (Ldn, 2011b). Audible noise at 600 meters (approximately 2,000 feet) in elevation will be twice the audible noise at 300 meters (approximately 1,000 feet), all other things being equal. Typically for transmission lines the maximum Corona noise during wet weather conditions is usually less than 40 dBA at the edge of the right of way (ROW) (Ldn, 2011b). Corona typically becomes a design concern for transmission lines at 345 kV and above and is less noticeable from lines like those proposed for the Project that are operated at lower voltages.

The electric field gradient is greatest at the surface of the conductor. Large-diameter conductors have lower electric field gradients at the conductor surface and, hence, lower Corona than smaller conductors. Irregularities, such as nicks and scrapes on the conductor surface, concentrate the electric field at these locations and increase the electric field gradient and thus the resulting Corona. Similarly, dust or insects on the conductor surface can cause irregularities and are a source for Corona along with moisture from fog or raindrops. Corona noise is primarily audible during wet weather conditions such as fog and rain. Heavy rain will typically generate a noise level from the falling rain drops hitting the ground that will be greater than the noise generated by Corona and thus mask the audible noise from the transmission line.

3.8.2.2 NOISE ATTENUATION

Noise attenuation refers to the decline in noise level that occurs in association with increased distance from the receptor. Sounds generated from a point source typically attenuate or decrease at a rate of 6 dBA for each doubling of distance. For example, a noise level of 87 dBA measured at 50 feet from the noise source would be reduced to 81 dBA at 100 feet from the source and be further reduced to 75 dBA at 200 feet from the source. When the noise source is a continuous line (e.g., vehicle traffic on a highway), the noise levels radiate in an almost oblique fashion from the source and drop off at a rate of 3 dBA for each doubling of distance under hard site conditions and at a rate of 4.5 dBA for soft site conditions. Hard site conditions consist of concrete, asphalt and hard pack dirt while soft site conditions exist in areas having slight grade changes, landscaped areas and vegetation. Barriers, obstructions, and weather conditions can all affect how noise travels.

SECTION 3.8

NOISE

SECTION 3.9
AGRICULTURAL RESOURCES

3.9 AGRICULTURAL RESOURCES

This section provides a background discussion of the regulatory framework and the affected environment. The regulatory framework discussion focuses on the federal, state, and local regulations. The affected environment discussion focuses on the existing activities, important farmlands categories, zoning, agricultural soil classifications, Imperial County agricultural conversion, on-site soils, and Williamson Act lands.

The information contained in this section is based on the following resources: Imperial County General Plan Agriculture Element; Imperial County General Plan Environmental Impact Report; soil classifications designated by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS); California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) data; the County's online GIS mapping to determine important farmlands and lands subject to Agricultural Land Conservation (i.e., Williamson Act) contracts; and aerial photography.

3.9.1 REGULATORY FRAMEWORK

3.9.1.1 FEDERAL

A. Farmland Protection Policy Act (FPPA)

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that—to the extent possible—federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The FPPA is overseen by the U.S. Department of Agriculture's Natural Resources Conservation Service.

3.9.1.2 STATE

A. California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et. seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

3.9.1.3 LOCAL

A. County of Imperial General Plan

Agriculture has been the single most important economic activity of Imperial County throughout its history. The County of Imperial General Plan Agricultural Element demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production, while allowing logical, organized growth of urban areas (County of Imperial, 1996).

The Imperial County General Plan Agricultural Element provides goals, objectives, and policies for conserving agricultural lands while minimizing or avoiding conflicts with urban and other land uses.

3.9 AGRICULTURAL RESOURCES

Table 3.9-1 provides a consistency analysis of the applicable Imperial County General Plan policies relating to agricultural resources as they relate to the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping/Alternative Undercrossing Location and Configuration, and Alternative 4 - No Action/No Project Alternative. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>Preservation of Important Farmland Policy The overall economy of Imperial County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in Imperial County is considered as Important Farmland, as defined by Federal And State agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.</p> <p>Programs</p> <ul style="list-style-type: none"> No agricultural land designated except as provided in Exhibit C shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this element) before granting final approval of any proposal which removes land from the Agriculture category. 	<p align="center">Yes</p>	<p>The private lands on which the Proposed Action is planned are zoned A-2 - General Agriculture, A-2-R - General Agriculture, Rural Zone, and A-3 - Heavy Agriculture. Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones. In keeping with the provisions of the zoning designations, the Applicant is seeking a Conditional Use Permit (CUP).</p> <p>The BLM land on which a portion of the Gen-tie is proposed are not designated for agricultural uses. These lands are located entirely within California Desert Conservation Area (CDCA) Plan Corridor N (or Utility Corridor N). Additionally, a portion of the Gen-tie Line on BLM land is within the Westwide Energy Corridor Segment 115-238, which is designated as a multi-modal transmission corridor.</p>

B. Imperial County Zoning Ordinance

Imperial County's Zoning Ordinance establishes land use zones and regulations for the use of land and buildings in the unincorporated areas of the County. The Zoning Ordinance is an implementation step of the County's General Plan and provides more specific requirements that are provided in the General Plan.

C. County of Imperial Right to Farm Ordinance No. 1031

The County of Imperial Right to Farm Ordinance (No. 1031) was approved by the County Board of Supervisors on August 7, 1990. The purpose and intent of the Ordinance is to reduce the loss to the County of its agricultural resources by clarifying the circumstances under which agricultural operations may be considered a nuisance. The Ordinance permits operation of properly conducted agricultural operations within the County. The Ordinance promotes a good neighbor policy by disclosing to purchasers and users of adjacent properties the potential problems and inconveniences associated with agricultural operations.

D. County of Imperial Williamson Act Rules and Procedures

In 2000, the Imperial County Board of Supervisors adopted the Williamson Act and the provisions established by California Revenue and Taxation Code Section 423.3. The Board of Supervisors also adopted Resolution 200-084, which established the County of Imperial Rules of Procedure to Implement the California Land Conservation Act of 1965 (Rules). The Rules set forth eligibility criteria and standards for the establishment of an agricultural preserve, expansion of an agricultural preserve, and removal of land from an agricultural preserve. The Rules also establish requirements for Land Conservation Contracts and local monitoring requirements.

3.9.2 AFFECTED ENVIRONMENT

Imperial County covers an area of 4,597 square miles or 2,942,080 acres. Agricultural production has been the major economic industry in Imperial County throughout the 1900s. Several factors including climate, fertile soils, and the irrigation water have lead to Imperial County's agricultural productivity.

Approximately 20 percent of the County's land is irrigated for agricultural purposes. Three of the primary irrigated areas include the Imperial Valley (512,163 acres), Bard Valley (14,737 acres) in the southeast corner of the County, and Palo Verde Valley (7,428 acres) in the northeast corner (County of Imperial, 1996). A diverse array of irrigated crops are cultivated in the County including lettuce, carrots, onions, tomatoes, cauliflower, and broccoli; alfalfa, Sudan grass, and other animal feed; sugar beets; wheat and other grains; melons; cotton; and various citrus, fruits, and nuts (County of Imperial, 1996).

In recent years, several factors have significantly altered the agricultural conditions in the County. Expanded population has given rise to booming residential and commercial development, which in turn has substantially increased the value of land and the cost of water and labor essential for successful agricultural production. As urbanization expands throughout the County, there is a growing economic incentive for local farmers to sell off agricultural lands or relocate their operations elsewhere, and agricultural land within the County is gradually disappearing, although the pace has slowed down somewhat with the recent housing slump and economic recession.

3.9.2.1 EXISTING ACTIVITIES

The properties for the CSE Facility and the private property crossed by the Gen-tie Line are agricultural lands. Of the 2,067 acres which make up the Proposed Action, 1,950 acres are in active agricultural production of non-food crops (predominantly forage crops such as bermuda grass and alfalfa). Two single-family residences (on parcels 052-170-018 and 052-170-076), and a mobile home (on parcel 052-170-058) are also located on the project site. These buildings are planned to be demolished and removed. The project area is also bisected by irrigation canals, ditches and public roads.

Private lands crossed by the Gen-tie Line are used for agricultural production. The segment of the Gen-tie Line that will cross BLM lands are undeveloped and located within the Yuha Basin.

3.9.2.2 ZONING

Private lands on which the Proposed Action is planned are zoned as A2 – General Agriculture, A2R – General Agriculture, Rural Zone and A3—Heavy Agriculture. Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in the Agricultural zones.

3.9.2.3 Important Farmland Categories

The California Department of Conservation Farming, Mapping and Monitoring Program (FMMP) produces Important Farmland Maps which document resource quality and land use information. USDA Soil Survey information and the corresponding Important Farmland candidacy recommendations are used for assessing local land.

The FMMP is intended to assist decision-makers in assessing present status, reviewing trends, and planning for the future of California’s agricultural land resources. According to the 2008 FMMP, the project site contains land designated as Prime Farmland and Farmland of Statewide Importance. **Figure 3.9-1** depicts the Important Farmlands Classifications on the Proposed Action site; none of the BLM lands include classified farmlands. **Table 3.9-2** provides the approximate acreages associated with each of the Important Farmland Classifications on the project site. Definitions of each agricultural classification are provided below.

**TABLE 3.9-2
DEPARTMENT OF CONSERVATION IMPORTANT FARMLANDS ON-SITE**

Agriculture Classification	Approximate Acreage
Prime Farmland	138
Farmland of Statewide Importance	1,927
Unique Farmland	2
Farmland of Local Importance	0
Urban & Built-Up	0
Other Land	30
Totals	2,067

Source: Imperial County, 2011a.

3.9 AGRICULTURAL RESOURCES

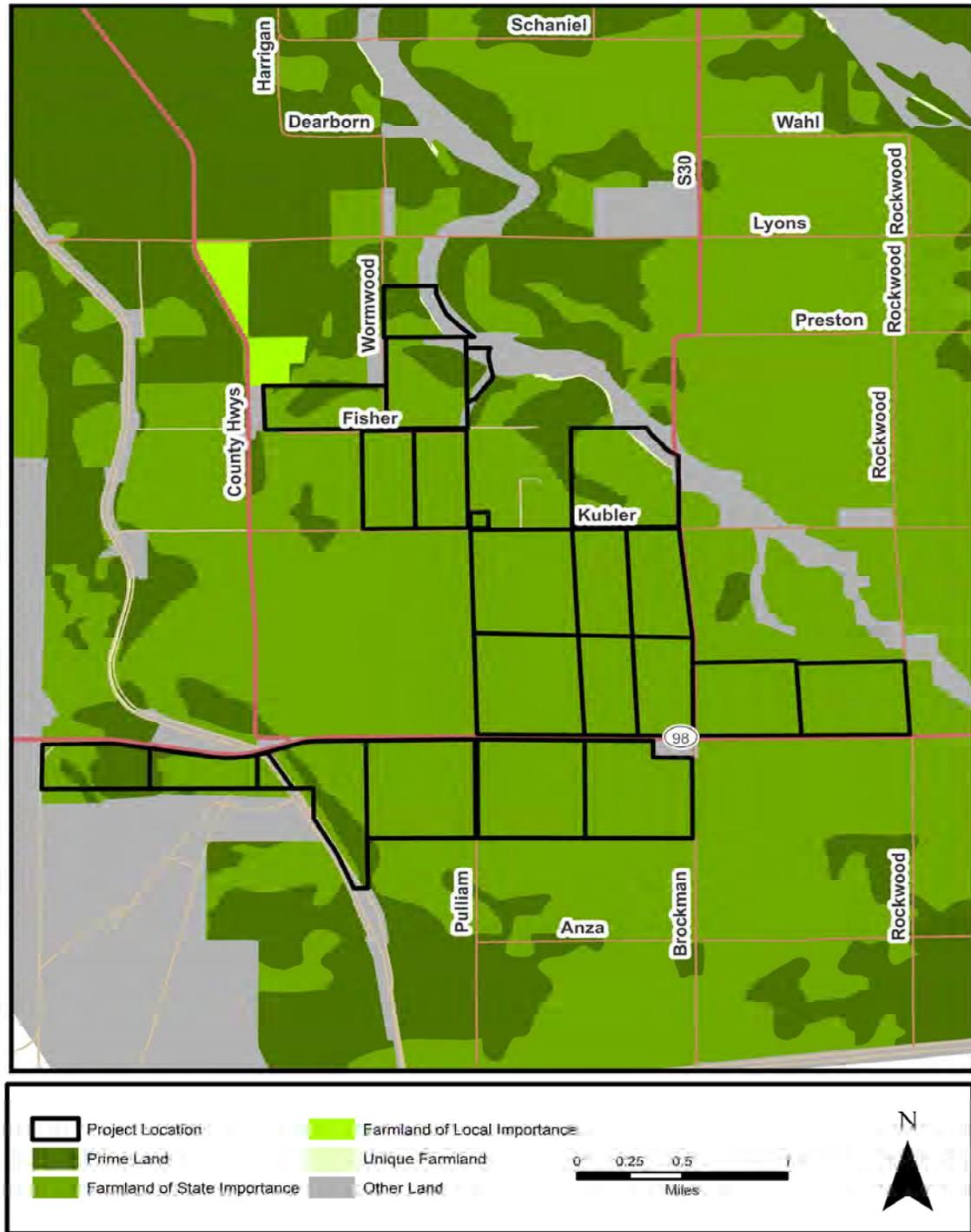


FIGURE 3.9-1
IMPORTANT FARMLANDS

Source: Ericsson-Grant, 2011.

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A. Prime Farmland

Prime Farmland is defined by the California Department of Conservation as: “land with the best combination of physical and chemical features able to sustain long term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at sometime during the [past four years].”

As depicted in **Figure 3.9-1**, land classified as Prime Farmland (approximately 132 acres) is located in the northern and southwest parcels of the CSE facility component of the Proposed Action.

B. Farmland of Statewide Importance

Farmland of Statewide Importance is defined by the California Department of Conservation as: “land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at sometime during the [past four years].”

The majority of the project site is classified as Farmland of Statewide Importance (approximately 1,927 acres) as shown on **Figure 3.9-1**.

C. Unique Farmland

Unique Farmland is defined by the California Department of Conservation as: “lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been used for production of irrigated crops at sometime during the [past four years].”

The project site has two acres of Unique Farmland located on lands that are adjacent to the Greeson Wash along the easternmost boundary of the project site (**Figure 3.9-1**).

D. Farmland of Local Importance

Farmland of Local Importance is defined by the California Department of Conservation as: "land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland." In Imperial County, unirrigated and uncultivated lands with soils that would otherwise be considered "Prime" or "Statewide," fall under this classification.

No portion of the project site is classified as Farmland of Local Importance (**Figure 3.9-1**).

E. Other Land

Other Land is defined by the California Department of Conservation as: “land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and, water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.”

As depicted in **Figure 3.9-1**, land classified as Other Land (approximately 30 acres) includes the existing access road and land located in the southwest corner of the proposed solar energy facility.

F. Urban and Built-up Land

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

G. Gen-Tie Line Alignment and BLM Lands

The BLM land, which includes the majority of the right-of-way for the Gen-tie alignment, is not classified.

3.9.2.4 Agricultural Soils Classifications

A. U.S.D.A Soil Survey

The U.S. Department of Agriculture (USDA) conducted a Soil Survey for the Imperial Valley Area and published maps and guidelines to define the condition and location of various kinds of soils in the region (USDA, 1981). Soils were characterized according to their appearance, depth, consistency, slope, and erosion factors. The Soil Survey grouped soil types identified in the study into eight soil Capability Classes. The classes were determined according to any limiting characteristics that would prevent the soils from being used for agricultural purposes. These classes are identified in **Table 3.9-3**. Soils are graded from I through VIII, with I denoting the most suitable class for cultivation, and VIII denoting the least suitable for cultivation.

**TABLE 3.9-3
SOIL CAPABILITY CLASSES - CLASS DESCRIPTION**

Class	Description
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use mainly to pasture, range, forestland, or wildlife food and cover.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
VIII	Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.

Source: USDA, 1981; USDA, 2011.

3.9 AGRICULTURAL RESOURCES

Storie Index

The Storie Index provides another mechanism for rating soils. Under the Storie Index, a numerical system is used to convey the relative degree of suitability, or value of a soil for general intensive agriculture use. The index considers a soil's color and texture, the depth of nutrients, presence of stones, and slope. All of these characteristics directly relate to the adequacy of a soil type for use in crop cultivation. **Table 3.9-4** identifies the Storie Index classifications.

**TABLE 3.9-4
STORIE INDEX RATINGS - GRADE INDEX RATING DESCRIPTION**

Grade	Index Rating	Description
1	80 to 100	Few or no limitations that restrict use for crops. Excellent or well suited to general intensive farming.
2	60 to 80	Good or also well suited to general farming.
3	40 to 60	Fairly well suited to general farming.
4	20 to 40	Poorly suited to general farming.
5	10 to 20	Very poorly suited to general farming.
6	Less than 10	Not suitable for farming.

Source: USDA, 1981.

The Storie Index does not consider other factors, such as the availability of water for irrigation, climate, and the distance from markets. Values of the index range from 1 to 100 and are divided into six grades. An index of 100 and a grade of 1 is considered the most suitable farmland. Soils that have a Storie rank of 10 or below are considered to have a very low agricultural potential. Soils are considered to be prime for high quality agricultural production if their Storie Index Rating is 80 or greater. In the Imperial Valley region, the Storie Index ratings of soils range from 5 to 97.

3.9.2.5 IMPERIAL COUNTY AGRICULTURE CONVERSION

Table 3.9-5 depicts the conversions of agricultural land to non-agricultural uses within Imperial County from 2006-2008. As depicted in this table, the 2008 inventory of important farmlands included 195,589 acres of Prime, 311,048 acres of Statewide Importance, 2,196 of Unique, and 32,109 acres of Farmland of Local Importance. The Prime Farmland and Farmland of Statewide Importance within the project site total 2,005 acres and comprise just less than 0.4 percent of the total Prime Farmland and Farmland of Statewide Importance (506,637 acres) in the County.

**TABLE 3.9-5
IMPERIAL COUNTY CHANGE IN AGRICULTURAL LAND USE SUMMARY (2006 - 2008)**

Land Use Category	Total Acreage Inventoried		2006 - 2008 Acreage Conversion			
	2008	2006	Lost (-)	Gained (+)	Net Acreage Changed	2008 Adjustments
Prime Farmland	195,589	196,176	1,000	407	-593	6
Farmland of Statewide Importance	311,048	311,645	2,243	1,646	-597	0
Unique Farmland	2,196	2,281	120	35	-85	0
Farmland of Local Importance	32,109	33,036	2,444	1,517	-927	0

3.9 AGRICULTURAL RESOURCES

**TABLE 3.9-5
IMPERIAL COUNTY CHANGE IN AGRICULTURAL LAND USE SUMMARY (2006 - 2008)**

Land Use Category	Total Acreage Inventoried		2006 - 2008 Acreage Conversion			
	2008	2006	Lost (-)	Gained (+)	Net Acreage Changed	2008 Adjustments
Important Farmland Subtotal	540,942	543,138	5,807	3,605	-2,202	6
Grazing Land	0	0	0	0	0	0
Agricultural Land Subtotal	540,942	543,138	5,807	3,605	-2,202	6
Urban and Built-Up Land	27,709	26,897	272	1,084	812	0
Other Land	458,829	457,510	890	2,273	1,383	-64
Water Area	1,029	1,022	0	7	7	0
Total Area Inventoried	1,028,509	1,028,567	6,969	6,969	0	-58

Source: DOC, 2011.

As shown in **Table 3.9-5**, there was a net loss of 2,202 acres of Important Farmlands in Imperial County from 2006-2008. Farmland conversions occurred for a variety of reasons, including fallowing of lands resulting in a conversion to a non-irrigated classification, and conversion to urban and other uses due to development of farmsteads, rural commercial facilities, low-density housing, mining facilities, and dairy expansions. The trend in the conversion of agricultural land is expected to continue due to development pressure and other factors.

3.9.2.6 ON-SITE SOILS

Seven soil types are present on the project site based on the USDA survey maps. These include Badland; Holtville silty clay; Holtville silty clay (wet); Imperial silty clay (wet); Imperial-Glenbar silty clay loams (2 to 5 percent slopes); Meloland very fine sandy loam (wet); 132 - Rositas fine sand (0 to 2% slopes); and 132 - Rositas fine sand, wet, (0 to 2% slopes). **Table 3.9-6** provides details on the variety of soils found on the project site, along with their Capability Class and Storie Index rating. Refer to Figure 3.6-2 in Section 3.6, Geology and Soils for a graphical depiction of these soil types on the project site.

**TABLE 3.9-6
SOIL SUITABILITY - MAP SYMBOL MAPPING UNIT CAPABILITY**

Map Symbol - Soil	Approximate % of Project Area	Capability Class	Storie Index
102 - Badland	0%	VIIIe	<10
109 - Holtville silty clay	0%	IIIs-5	50
110 - Holtville silty clay, wet	3%	IIW-5	30
114 - Imperial silty clay, wet	21%	IIIW-6	22
115 - Imperial-Glenbar silty clay loams (2 to 5% slopes)	72%	IIIW-6	34
122 - Meloland very fine sandy loam, wet	3%	IIIW-3	43
132 - Rositas fine sand (0 to 2% slopes)	0%	IIIs-4	62
135 - Rositas fine sand, wet (0 to 2% slopes)	1%	IIIW-4	36
Totals	100%	--	--

Source: Ericsson-Grant, Inc. 2011.

3.9 AGRICULTURAL RESOURCES

Badland (less than one percent of the project area), Holtville silty clay (less than one percent of the project area), Holtville silty clay, wet (three percent of the project area), Imperial silty clay (wet) (21 percent of the project area), and Rositas fine sand, 0 to 2 percent slopes (1 percent of the project area) meet the criteria for the Prime Farmland designation. Imperial-Glenbar silty clay loams, 2 to 5 percent slopes (72 percent of the project area), Meloland very fine sandy loam, wet (three percent of the project area), and Rositas fine sand, wet, 0 to 2 percent slopes (1 percent of the project area) are considered Farmland of Statewide Importance soils.

3.9.2.7 WILLIAMSON ACT LANDS

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et. seq.) is a statewide mechanism for the preservation of agricultural and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing lands in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner. Amendments to the Budget Act of 2009 reduced the Williamson Act subvention payments budget to \$1,000, essentially suspending the subvention payments to the Counties.

Three parcels, 052-170-076, 052-170-078 and 052-170-035, totaling approximately 335 acres, are currently under Williamson Act contract (refer to **Figure 2.0-38** in Chapter 2.0). The owner of these parcels has filed a notice of non-renewal with the County. Early termination of the Williamson Act contracts is being requested to facilitate development of the project (CSE, 2011a).

SECTION 3.10

HAZARDS AND HAZARDOUS MATERIALS

3.10 HAZARDS & HAZARDOUS MATERIALS

This section describes federal, state and local regulations applicable to hazards and hazardous materials. It also describes the environmental setting with regard to potential hazards on the project site and potential hazards created as a result of implementing the proposed project and alternatives. Multiple Phase I Environmental Site Assessments were prepared for the portion of the project located on private lands. However, the BLM has not identified any hazards or hazardous materials (nor provided any reports in this regard) on lands within the proposed right-of-way (ROW) for the Gen-tie Line alignment through BLM land.

Note that this section does not address flooding or seismic hazards. Refer to Section 3.6 and 4.6 (Geology and Soils) and Section 3.11 and 4.11 (Hydrology and Water Quality) for a discussion of those issues.

3.10.1 REGULATORY FRAMEWORK

3.10.1.1 FEDERAL

A. Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the Environmental Protection Agency (EPA) to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The project site currently contains a few items that are considered potentially hazardous. Small quantities of hazardous materials will be used and stored on-site during operations and maintenance of the project.

B. Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act, better known as the Clean Water Act, is a comprehensive statute focused on restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Originally enacted in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost on an annual basis.

Primary authority for the implementation and enforcement of the Clean Water Act rests with the U.S. Environmental Protection Agency (EPA). The Act authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways. The project would be subject to NPDES Construction General Permit during construction and a General Industrial Permit during operations and maintenance to address water quality.

C. Occupational Safety and Health Act (OSHA)

Congress passed the Occupational Safety and Health Act (OSHA) to assure safe and healthful working conditions for working men and women. OSHA authorized enforcement of the standards developed under the Act and by assisted States in their efforts to assure safe and healthful working conditions.

3.10 HAZARDS AND HAZARDOUS MATERIALS

OSHA also provides for research, information, education, and training in the field of occupational safety and health. The project would be subject to OSHA requirements during construction, operations and maintenance and decommissioning.

D. Title 14, Part 77 of the Code of Federal Regulation, “Objects Affecting the Navigable Air Space”

Part 77 of the Code of Federal Regulation establishes standards and notification requirements for objects affecting navigable airspace. Part 77 describes the criteria used to determine the need for a Federal Aviation Administration (FAA) “Notice of Proposed Construction or Alteration” in cases of potential obstruction hazards. This notification serves as the basis for:

- Evaluating the effect of the construction or alteration on operating procedures;
- Determining the potential hazardous effect of the proposed construction on air navigation;
- Identifying mitigating measures to enhance safe air navigation; and,
- Charting of new projects.

Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces on and around airports through which no object should penetrate. These surfaces include the primary approach and transitional, horizontal, and conical surfaces. Criteria used in determining the shape, size, and position of the various surfaces are outlined in the federal regulations. Projects anticipated to obstruct navigable airspace would be subject to review associated with Part 77. The proposed project includes towers to support the Gen-tie Line which could be up to 160-feet in height (130-feet plus ground elevation up to 30 feet) (CSE, 2011f). The Applicant used the FAA Notice Criteria Tool (FAA Tool) to determine if it was necessary to notify the FAA regarding height of the proposed towers. The Tool indicated that notice is not required for the Gen-tie line towers (CSE, 2011f).

E. FAA Advisory Circular No. 70/7460-1G

FAA Advisory Circular No. 70/7460-1G, “Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space” addresses the need to file the “Notice of Proposed Construction or Alteration” form (Form 7640) with the FAA in cases of potential for an obstruction hazard. The proposed project includes towers to support the Gen-tie Line which could be up to 160-feet in height (130-feet plus ground elevation up to 30 feet). The Applicant used the FAA Notice Criteria Tool (FAA Tool) to determine if it was necessary to notify the FAA regarding height of the proposed towers. The Tool indicated that notice is not required for the Gen-tie Line towers (CSE, 2011f).

F. Title 47, CFR, section 15.2524, Federal Communications Commission (FCC)

Title 47, CFR, Section 15.2524, Federal Communications Commission (FCC) prohibits operation of devices that can interfere with radio-frequency communication. The proposed Gen-tie Line, as a high-voltage transmission line represents a potential source of radio-frequency communication interference.

3.10.1.2 STATE

A. Title 22 of the California Code of Regulations

Hazardous Materials Defined

Under Title 22 of the California Code of Regulations (CCR), the term “hazardous substance” refers to both hazardous materials and hazardous wastes, both of which are classified according to four properties: (1) toxicity; (2) ignitability; (3) corrosiveness; and, (4) reactivity (CCR Title 22, Chapter 11, Article 3). Title 22 defines a hazardous material as follows:

...A substance or combination of substances which because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or, (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations, Title 22, Section 66260.10).

Chemical and physical properties that cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity, are defined Title 22, Sections 66261.20 through 66261.24. Factors that influence the health effects of exposure to hazardous materials include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility. The proposed project would require use of small amounts of hazardous materials during construction, operation and maintenance and decommissioning.

B. California Environmental Protection Agency

The California Environmental Protection Agency (Cal EPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Small quantities of hazardous materials will be used and stored on-site for miscellaneous, general maintenance activities that would be subject to state and local laws.

C. Department of Toxic Substances Control

The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). Enforcement is delegated to local jurisdictions that enter into agreements with DTSC.

3.10 HAZARDS AND HAZARDOUS MATERIALS

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On-site Treatment
- Underground Storage Tanks
- Hazardous Material Release Response Plans and Inventories
- California Accidental Release Prevention Program
- Aboveground Storage Tanks (spill control and countermeasure plan only)
- Uniform Fire Code Hazardous Material Management Plans and Inventories

The statute requires all counties to apply to the Cal EPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most CUPAs have been established as a function of a local environmental health or fire department.

The Office of the State Fire Marshal participates in all levels of the CUPA program including regulatory oversight, CUPA certifications, evaluations of the approved CUPAs, training, and education. Department of Toxic Substances Control serves as the CUPA in Imperial County.

Small quantities of hazardous materials will be transported to and from the project site and used and stored on-site for miscellaneous, general operations and maintenance activities.

D. California Public Utilities Commission (CPUC), General Order 95 (GO-95), "Rules for Overhead Electric Line Construction"

GO-95 governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements. These standards ensure that the appropriate clearances will be reliably maintained between the CSE Gen-tie Line and crossings of two existing electric line installations: the Southwest Powerlink, an existing 500-kV transmission line aligning east to west through the Imperial Valley Substation; and an existing 230-kV electric line extending north from the Imperial Valley Substation. The Applicant has indicated that the proposed project would meet or exceed the requirements of this order (CSE, 2011f).

E. California Public Utilities Commission, General Order 52 (GO-52)

GO-52 governs the construction and operation of power and communications lines to prevent or mitigate interference resulting from such lines.

3.10 HAZARDS AND HAZARDOUS MATERIALS

F. California Public Utilities Commission, General Order 131-D, “Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California”

GO-131-D specifies application and noticing requirements for new line construction including electromagnetic field (EMF) reduction. The proposed project would be subject to this order.

G. Title 8, California Code of Regulations (CCR) section 2700 et seq. “High Voltage Safety Orders”

Title 8 of the California Code of Regulations specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment. The proposed project would be subject to Title 8.

H. National Electrical Safety Code

The National Electrical Safety Code specifies grounding procedures to limit nuisance shocks and specifies minimum conductor ground clearances. The proposed project would be subject to this code and will be designed with a grounding system providing an adequate path-to-ground to permit the dissipation of current created by lightning and ground faults.

I. 14 California Code of Regulations (CCR), Sections 1250 – 1258, “Fire Prevention Standards for Electric Utilities”

14 CCR provides specific exemptions from electric pole and tower firebreak. 14 CCR also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects. The proposed project would be subject to these standards.

3.10.1.3 LOCAL

A. County of Imperial General Plan

Both natural and mad-made hazards are addressed in the County of Imperial General Plan. The Seismic and Public Safety Element also contains a set of goals and objectives for land use planning and safety, emergency preparedness, and the control of hazardous materials. The goals and objectives, together with the implementation programs and policies provide direction for development.

Table 3.10-1 analyzes the consistency of the project with the applicable goal and objectives relating to public safety in the County of Imperial General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

3.10 HAZARDS AND HAZARDOUS MATERIALS

**TABLE 3.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Public Safety Policies		
Control Hazardous Materials		
Goal 3: Protect the public from exposure to hazardous materials and wastes.	Yes	The County has adopted an Emergency Operations Plan and a Fire Prevention and Explosives Ordinance to protect the public from exposure to hazardous materials wastes. The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative do not involve exposure of the public to hazardous materials and wastes. Prior to using or storing hazardous materials on the project site, the Applicant will prepare a Hazardous Material Management Plan or other similar plans, as applicable. No change in hazardous materials use would occur as part of Alternative 4 – No Action/No Project and agricultural practices would continue in accordance with applicable standards and regulations. Thus, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this goal.
Objective 3.1 Discourage the transporting of hazardous materials/waste near or through residential areas and critical facilities.	Yes	The proposed project site and surrounding area does not contain any residential uses or critical facilities such as a hospital or fire station. Large quantities of hazardous materials are not required as part of construction, operations and maintenance, or decommissioning of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site or Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. No transport of hazardous materials through residential or critical facilities would occur as part of Alternative 4 – No Action/No Project. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.
Objective 3.2 Minimize the possibility of hazardous materials/waste spills.	Yes	As noted under the analysis for Goal 3, prior to using or storing hazardous materials on the project site, the Applicant will prepare a Hazardous Material Management Plan or other similar plans, as applicable for the Proposed

3.10 HAZARDS AND HAZARDOUS MATERIALS

**TABLE 3.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, or Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. In addition, BMPs would be implemented to avoid accidental spills during refueling of equipment at the time of construction. No change in hazardous materials use would occur as part of Alternative 4 – No Action/No Project. Existing use of agricultural chemicals would occur in accordance with applicable regulations. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.
Objective 3.3 Discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations.	Yes	The project site is surrounded by agricultural and desert lands. The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing are compatible with surrounding uses and the project site is not adjacent to any hazardous facilities. No change in existing agricultural uses would occur in association with Alternative 4 – No Action/No Project. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this objective.

B. Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) sets forth the criteria and policies which the Imperial County Airport Land Use Commission (ALUC) uses assessing the compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding them. The Plan primarily deals with review of local general plans, specific plans, zoning ordinances and other land use documents covering broad geographic areas. Certain individual land use development proposals also may be reviewed by the Commission as provided in the policies identified in the Plan. The ALUC does not have authority over existing incompatible land uses or the operation of any airport. The project is subject to review by the ALUC to determine compatibility of the project with the ALUCP.

3.10 HAZARDS AND HAZARDOUS MATERIALS

C. Imperial County Office of Emergency Services – Emergency Operations Plan

The Imperial County Fire Department (ICFD) is the local Office of Emergency Services in Imperial County. The County Fire Chief is the OES Coordinator. An Assistant OES Coordinator maintains the OES program for the County of Imperial. ICFD acts as the lead agency for the Imperial County Operational Area (OA) and provides leadership in all phases of developing the emergency management organization, including public education, training, EOC operations, interagency coordination, and plan development (Imperial County OES, 2007).

The Imperial County Operational Area Emergency Operations Plan (EOP) provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property. The EOP is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the U.S. Department of Homeland Security National Incident Management System (NIMS) for managing response to multi-agency and multi-jurisdictional emergencies. SEMS/NIMS incorporates the use of the Incident Command System (ICS), mutual aid, the operational area concept, and multi/interagency coordination (Imperial County OES, 2007). The project site is included in the EOP.

D. County of Imperial Fire Prevention and Explosives Ordinance

The County of Imperial Fire Prevention and Explosives Ordinance, Section 53101-53300, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. Such measures in this Ordinance include the following:

- Storage of flammable materials
- Storage of Radioactive materials
- Permit required for sale and use of fireworks
- Abatement of weeds and other vegetation

Weed and vegetation control would be enforced as part of operations and maintenance of the proposed project.

3.10.2 AFFECTED ENVIRONMENT

3.10.2.1 PROJECT LOCATION

The site of the proposed CSE Facility is located on 2,067 gross acres of privately-owned, undeveloped and agricultural lands in Imperial County. The project site is located south of Seeley, California near Mount Signal and approximately 8 miles southwest of the City of El Centro. The site is bounded on the east by Rockwood Road and on the west by Drew Road. SR 98 bisects the site in two general areas with the majority of the site's acreage located on the north side of the highway. The project site also includes four contiguous parcels south of SR 98 bound by Brockman Road on the east and Westside Main Canal on the west. The proposed Gen-tie Line extends from the CSE Facility site to the Imperial Valley Substation through the BLM's Utility Corridor N. The project site is located in a rural, unpopulated area

3.10 HAZARDS AND HAZARDOUS MATERIALS

currently used for, and surrounded by, agricultural lands. Based on its current use, the project site and surrounding area has been subject to pesticide use. A portion of the western boundary of the project site is adjacent to lands managed by the BLM. The project site is located approximately 7.5 to 9 miles west of the Calexico International Airport and approximately 6.5 miles south of the U.S. Naval Air Facility at El Centro.

A. Environmental Site Assessment

Information contained in this section is summarized from four Phase I Environmental Site Assessment (ESA) Reports prepared for the various parcels that comprise the project site. These include *Phase I ESA Report Centinela Solar Energy North of State Highway 98 Near Brockman Road, Calexico, California* (GS Lyon, 2010a); *Phase I ESA Report Centinela Solar Energy Site #2 North of State Highway 98 Near Brockman Road, Calexico, California* (2010b); *Phase I ESA Report West-Gro and Dessert Ranch Southwest of State Hwy 98 and Brockman Road Calexico, California* (2011a); and *Phase I ESA Report Brundy Property Southwest of State Hwy 98 and Westside Main Canal West of Calexico, California* (2011b) and a letter “Response to Phase 1 ESA Comments Centinela Solar Energy Solar Energy Facility Imperial County, California” (Lyon, 2011). These documents are provided on the attached CD of Technical Appendices as **Appendix G** of this EIR/EA.

The purpose of the Phase I ESAs prepared for the proposed project were to determine if any recognized or potential environmental conditions are present on the CSE Facility site. The American Society for Testing and Materials (ASTM) defines “recognized environmental conditions” as “any hazardous substance or petroleum product under conditions that indicate an existing, past, or material threat of release into the structures, ground, groundwater, or surface water at the subject site.”

The Phase I ESAs include results of a site reconnaissance to identify current conditions of the CSE Facility site and adjoining properties, a review of various readily available federal, state, and local government agency records, and review of available historical site and site vicinity information.

Research conducted indicates that the proposed CSE Facility site has been in agricultural use from the late 1940’s to present. The 2,067 acre CSE Facility site currently has approximately 1,861 acres in active agricultural production of non-food crops (predominantly forage crops such as bermuda grass and alfalfa). Irrigation canals, ditches and public roads transect the CSE Facility site associated with past and current uses of the site. The portion of the Gen-tie Line crossing private land not included in the CSE Facility site is located in an easement secured by the Applicant on private land and through desert lands under the jurisdiction of the BLM within California Desert Conservation Area (CDCA) Utility Corridor N. Adjacent uses include desert lands, agricultural fields, and the IID infrastructure (e.g. canals, drains, trust lands).

Background Review

Reviews of historic topographic, historic aerial photographs, historic Sanborn Fire Insurance maps, and historic telephone and Polk City directories were performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the parcels. Additionally, state and federal regulatory lists containing information regarding hazardous materials on or within a 1-mile radius of the project site were reviewed. Results from the background review conducted by Environmental Data Resources, Inc. (EDR) are presented in the Phase I ESAs prepared by GS Lyon Consultants, Inc. (**Appendix G**).

3.10 HAZARDS AND HAZARDOUS MATERIALS

Preliminary title reports were provided by the client for each of the parcels. After review, no environmental liens were found associated with parcels located southwest of SR 98 and Brockman Road (Assessor’s Parcel Numbers [APN] 052-190-007, 052-190-008, 052-190-009, and 052-190-010) (GS Lyon, 2011a, p.3). Likewise, no liens were identified for the parcels located north of SR 98, east of Brockman Road and north of Kubler Road, east and west of Pulliam Road (APNs 052-170-019, 052-180-033, 052-180-032, and 052-170-058) (GS Lyon, 2010b). There were, however, oil and gas exploration leases dating from the early 1980s on parcels located southwest of SR 98 and the Westside Main Canal (APN 052-190-001, 052-190-002, and 052-190-006) (GS Lyon, 2011b, p. 3).

No title documents were provided for the portion of the site located northwest of Brockman Road and SR 98 that includes APNs 052-170-076, 052-170-036, 052-170-077, 052-170-034, 052-170-078, 052-170-035, 052-170-074, 0052-430-009, 052-170-052, 052-170-050, 052-170-068 and 052-170-018 (GS Lyon, 2010a, p. 4).

Site Reconnaissance

Site reconnaissance was performed for the various parcels comprising the CSE Facility site and easement through private property. A total of five visits were conducted to cover all of the 23 parcels that comprise the CSE Facility site and portion of the Gen-tie Line aligned through an easement on private property south of SR 98. The Assessor’s Parcel Numbers and corresponding dates of site reconnaissance are provided in **Table 3.10-2**. The site reconnaissance included visual observations of surficial conditions at the site and observation of adjoining properties to the extent that they were visible from public areas. The reconnaissance also included site observations for the presence of polychlorinated biphenyls (PCBs) and/or asbestos containing materials (ACMs), indications of surface or subsurface hydrocarbon or pesticide contamination, the presence of on-site groundwater wells, pits or sumps, wastewater discharge practices, and surface water drainage patterns (GS Lyon, 2010a, 2010b, 2011a, and 2011b).

**TABLE 3.10-2
SUMMARY OF SITE RECONNAISSANCE**

Assessor’s Parcel Numbers	Date of Reconnaissance
052-170-076, 052-170-036, 052-170-077, 052-170-034, 052-170-078, 052-170-035, 052-170-074, 0052-430-009, 052-170-052, 052-170-050, 052-170-068 and 052-170-018	Site reconnaissance conducted April 16, 2010. (GS Lyon, 2010a)
052-190-007, 052-190-008, 052-190-009, and 052-190-010	Site reconnaissance conducted December 27, 2010 (GS Lyon, 2011a).
052-170-019, 052-180-033, 052-180-032, and 052-170-058	Site reconnaissance conducted October 22, 2010. Secondary site reconnaissance conducted November 23, 2010 (GS Lyon, 2010b).
052-190-001, 052-190-002, and 052-190-006	Site reconnaissance conducted January 13, 2011 (GS Lyon, 2011b).

Source: GSLyon, 2010a, 2010b, 2011a, and 2011b compiled by Ericsson-Grant.

The reconnaissance included observations of the parcels within the project boundaries and observation of adjoining properties. The parcels were observed for the presence of surface staining and/or stressed vegetation; drums, aboveground storage tanks, and containers; evidence of waste disposal; fill material; transformers; vents, air stacks, and odors; underground storage tanks; wells; alterations in vegetation; pits, ponds, and lagoons; and presence of pesticides.

3.10 HAZARDS AND HAZARDOUS MATERIALS

Surface Staining and/or Stressed Vegetation

An area where vehicles are serviced is located in the southeast corner of parcel 052-170-018. The area is comprised of dirt extensively stained with what appear to be hydrocarbon (oil) (GS Lyon, 2010a). The hydrocarbon stained soil was dark in color and had the odor of motor oil. In addition, motor oil residues were found in the oil change containers on the site. No further testing was necessary based on the evidence discovered (Lyon, 2011).

Drums, Aboveground Storage Tanks, and Containers

Two large above-ground steel fuel storage tanks with a concrete containment area are located in the southeast corner of parcel 052-170-034 (GS Lyon, 2010a). This area also contains the Brockman homestead house and farm equipment yard located along the east side of Brockman Road. This portion is excluded from the agricultural lease and is not part of proposed project site. Several 55-gallon drums partially filled with an unknown substance (potentially gasoline or motor oil) are located in the southwest corner of parcel 052-170-018 (GS Lyon, 2010a). A propane tank is located on parcel 052-170-058 (GS Lyon, 2010b).

Underground Storage Tanks

No evidence of underground storage tanks (USTs) was documented on the project parcels (GS Lyon, 2010a, 2010b, 2011a, 2011b).

Trash and Debris

Household debris and tires are located along the eastern boundary of parcel 052-170-058 (GS Lyon, 2010b). Likewise, illegal solid waste is scattered around an automobile service area located on parcel 052-170-018 (GS Lyon, 2010a). The junk pile contains various household solid waste items such as a water heater, computer monitor, oil stained carpet and used motor oil cans which contained oil residue. No further testing for hydrocarbons (oil) was necessary based on the evidence discovered (Lyon, 2011).

Fill Material

No evidence of fill material was documented in the Phase I ESAs for the project parcels (GS Lyon, 2010a, 2010b, 2011a, 2011b).

Transformers

Two electrical transformers were noted on power poles at IID owned tile drainage water sumps as part of the reconnaissance for parcels 052-190-007, 052-190-008, 052-190-009, and 052-190-010 (GS Lyon, 2011a). Transformers were also noted on four of the on-site power poles. Three of the transformers were located on parcel 052-170-018: one in the central portion at an IID water siphon, one at the residence at the northwest corner, and one at the residence and farm shop property (GS Lyon, 2010a). The fourth transformer was located at the residence in the southeast corner of parcel 052-170-074, (GS Lyon, 2010a). No evidence of leakage from the transformers was noted where pole mounted transformers existed. IID has tested all transformers in the Imperial Valley for polychlorinated biphenyls (PCBs). Any containing PCBs were replaced by IID (GS Lyon, 2010a). No evidence of PCB contamination was present in association with the replaced transformers. PCB contamination would only be a Recognize Environmental Concern (REC) if a release had occurred (Lyon, 2011).

No transformers were identified on parcels 052-170-019, 052-170-028, 052-180-032, 052-180-033, 052-190-001, 052-190-002, and 052-190-006 (GS Lyon, 2010b and 2011b).

3.10 HAZARDS AND HAZARDOUS MATERIALS

Vents, Air Stacks, and Odors

No vents, air stacks or odors were noted during the site reconnaissance of the project parcels.

Groundwater and Wells

No evidence of groundwater was documented during the site reconnaissance of the project parcels. However, groundwater was encountered at depths ranging from 14 feet to 24 feet below ground surface based on 15 soil borings conducted as part of the geotechnical investigation conducted for the project (Landmark, 2011). The soil boring logs note that groundwater levels could rise to as high as 8 feet below ground surface (refer to Appendix B of Preliminary Geotechnical Investigation Report included as **Appendix E** of this EIR/EA) (Landmark, 2011). Oil and gas exploration leases dating from the early 1980's were identified as part of the title reports for parcels 052-190-001, 052-190-002 and 052-190-006 (GS Lyon, 2011b). However, no exploratory oil or gas wells were constructed on these parcels.

Alterations in Vegetation

The project parcels are generally comprised of agricultural fields currently in crop production or disced in between crop production (GS Lyon, 2010a, 2010b, 2011a, 2011b). No evidence of recent alterations in vegetation was documented in the Phase I ESAs for the project parcels.

Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were documented on the project parcels during the site reconnaissance. A septic system with leach field was noted on parcel 052-170-058 (GS Lyon, 2010b).

Pesticides and Herbicides

The Phase I ESAs noted that typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and application of chemical fertilizers to both ground and irrigation water (GS Lyon, 2010a, 2010b, 2011a, 2011b). Tile drainage systems beneath the agricultural fields remove excess water, soluble salts and compounds leached from the soil during irrigation. A water quality study of 27 irrigation drains throughout the Imperial Valley conducted in 1994 revealed that arsenic, selenium and nitrates were all below the regulatory limits for drinking water (GS Lyon, 2010a, 2010b, 2011a, 2011b). No pesticide or other agricultural chemical spills were noted as part of the Phase I ESAs for the project parcels. Based on numerous field tests conducted by GS Lyon on Imperial County agricultural lands, pesticide residues on farmlands are typically at 25 to 50 percent of regulatory action levels. During site reconnaissance, no evidence was observed indicating that the project site would have pesticide residues atypical of regulatory action levels. Thus no site specific testing is recommended (Lyon, 2011).

Environmental Database Search

Based on a review of the Environmental Data Reports (EDR) prepared for the Phase I ESAs, no sites were found within a 1-mile search radius of the project site. Likewise, the project parcels were not listed in any of the databases searched by EDR. The databases that were reviewed include federal, state, and local environmental records pertaining to the parcels within the CSE Facility site as well as the three private parcels the Gen-tie Line will cross as it extends west (GS Lyon, 2010a, 2010b, 2011a, and 2011b).

3.10 HAZARDS AND HAZARDOUS MATERIALS

B. Airport Land Use Compatibility Plan/Military Airspace

The project parcels range in distance from 7.5 to 9 miles west of the Calexico International Airport. This airport accommodates general aviation traffic only and light commercial jets/prop jets. None of the parcels are located within an Airport Compatibility Zone (GS Lyon, 2010a, 2010b, 2011a, 2011b). The closest public airport is the U.S. Naval Air Facility at El Centro (NAF/EC) military airport located approximately 6.5 miles north of the PV solar field. Low-level military training routes, Border Patrol Air Operations, CHP Air Operations and private plane traffic are associated with the NAF/EC (Villa, 2010a).

The Gen-tie Line, with a maximum height of 130 feet, is proposed to connect the CSE Facility to the Imperial Valley substation. The proposed Gen-tie Line and towers would be placed adjacent to the two existing 230-kV transmission lines. These lines are located within BLM lands and specifically within designated Utility Corridor N of the California Desert Conservation Area (CDCA).

Also, the project also includes towers up to 130-feet tall (exclusive of ground elevation) within the CSE Facility site (located on private lands under the jurisdiction of the County of Imperial). The project is located on lands zoned G-S (Government-Special), S-1 (Recreation/Open Space) and A-2, A-2-R and A-3 (Agriculture). Sections 90508.07 (C) and 90509.07 (C) of the County of Imperial's Land Use Ordinance limits the height of structures within the A-2, A-2-R and A-3 zones. Specifically, these sections state, "Non-Residential structures and commercial communication towers shall not exceed one-hundred-twenty (120) feet in height, and shall meet ALUC Plan requirements." As such, the proposed transmission towers could exceed the 120-foot height limit. A variance approval from the County of Imperial is required for the height exceedance. Section limits heights for buildings or structures in the G-S zone to six stories or 80 feet, except communication towers which not to exceed 100 feet. Minimum height is limited to 100-feet in zone G-S which covers lands within Imperial County under the jurisdiction of the BLM (e.g. the Gen-tie Line on BLM land). Section 90518.07 limits heights for buildings or structures in the S-1 zone to 35 feet, except for communication towers, which are limited to 100 feet.

On March 16, 2016, the Airport Land Use Commission (ALUC) reviewed the proposed application, including the proposed variance for the transmission tower height, and determined that the Proposed Action would be consistent with the Airport Land Use Compatibility Plan (ALUCP). At an ALUC public hearing on May 4, 2011, the Variance submitted by Centinela Solar Energy, LLC to install a 230-kV transmission line extending from the proposed PV solar field was deemed consistent with the 1996 ALUCP by the ALUC commissioners (Villa, 2011b).

C. Emergency Plans

The County of Imperial has adopted the "Imperial County Operational Area - Emergency Operations Plan," which addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The plan identifies certain open space areas and public buildings to serve as emergency shelters when residents must be relocated. No portion of the Proposed Action site is designated as an emergency shelter area on the Fire/Emergency Management/Staging and Shelter Zone Map (Imperial County Office of Emergency Services, 2007).

D. Fire Hazard / Smoke

The potential for a major fire in the unincorporated areas of the County is generally low. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (CDF, 2000), the project site is not located in an area characterized as

3.10 HAZARDS AND HAZARDOUS MATERIALS

either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) very high fire hazard severity zone. The closest wildland area prone to forest fire is located is approximately 19 miles northwest of the project site.

E. Valley Fever

Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. Soils within the Imperial Valley, including the project site, fit the profile to harbor Valley Fever spores. When soils are disturbed by the wind or other activities such as construction and farming, Valley Fever fungal spores become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus. Infection risk is highest in California during a six month period from June to November. Animals are also susceptible to the disease. In extreme cases, the disease can be fatal, though the majority of Valley Fever cases are very mild with over 60 percent or more of infected people having no symptoms or flu-like symptoms (BLM, 2010a). Imperial County has a relatively low Valley Fever incidence rate of 0.1 to 5 cases for every 100,000 people (CDPH, 2009).

All American Canal

At the Imperial Dam, water is diverted west to the All-American Canal, which conveys water to the Bard Valley in California, and to the agricultural areas of the Imperial and Coachella Valleys. The salinity of the water in the All-American Canal fluctuates from a low of 737 ppm (1.00 ton per acre-foot of water) to a high of 958 ppm (1.30 tons per acre-foot of water) (Imperial County, 1993b, p. 43). Without salinity control projects in the Colorado River basin, the salt concentration of this water would increase. However, water quality data for the All-American Canal indicate water suitable for continued agricultural use. All-American Canal flows are considered freshwater.

Alamo River

The Alamo River flows into Imperial County from Mexico carrying brackish water with TDS in the range of 2,000 to 4,000 ppm. Field erosion and dredging activities contribute to siltation in the Alamo River and ultimately, the Salton Sea. Presently, the Alamo River is very small as it crosses into the United States and carries agricultural water coming from agricultural fields in Mexico (Imperial County, 1993b, p. 14). The main pollutants in the water are pesticides which get drained into the Alamo River during irrigation. However, the potential for polluting the Alamo River could increase not only from the pesticides contained in the water but from potential development at or near the Alamo River at the International Boundary.

New River

The New River flows into the Imperial Valley from Mexico with a significantly high waste load. Seasonal variations in contaminant loads correspond to a late winter planting and irrigation, and a fallow fall season. The contaminant load indicates the intensive use of this water for irrigation in Mexico and the presence of municipal wastewater from Mexicali (Imperial County, 1993b, p. 43). As this drainage flows through the County, the flow increases dramatically as a result of drainage from the agricultural lands in the Imperial Valley. New River water is considered brackish.

Salton Sea

The historic data on the Salton Sea shows a gradual increase in the concentration of dissolved salts. This increase has resulted from the high evaporation rates and continual inflow of drainage waters with high salt loads from canals and laterals in Imperial Valley and from agricultural activity in Mexico. The Salton Sea has no outlet, occurring in a fault-controlled sub-sea level basin. Waters in the Salton Sea are considered saline.

At present, the primary water quality problem facing the Salton Sea continues to be increasing salinity and associated selenium buildup. Approximately five million tons of salt per year are carried into the Salton Sea. Selenium entering the Salton Sea originates from the Colorado River which contains approximately one to two part per billion (ppb) of selenium (Imperial County, 1993b, p. 56). As the Colorado River water is brought into Imperial Valley by various canals, the selenium becomes concentrated due to the evaporation and evapotranspiration that occurs during farming of agricultural fields. The agricultural drains then carry this selenium enriched water into the Salton Sea. The New and Alamo Rivers contain approximately seven to eight parts per billion of selenium (ppb) when they reach the Sea. The selenium is taken up and concentrated by small organisms (e.g. fish), which in turn, are eaten by larger organisms (e.g. birds).

SECTION 3.11
HYDROLOGY AND WATER QUALITY

3.11 HYDROLOGY AND WATER QUALITY

This section describes federal, state and local regulations applicable to hydrology and water quality. It also describes the environmental setting of the project site with regard to the regional hydrologic setting, existing hydrology/drainage (on-site and off-site), and existing flood hazards in the vicinity of the project site. Water quality is also described in terms of groundwater beneath the project site and surface waters in the region and Imperial Valley.

3.11.1 REGULATORY FRAMEWORK

3.11.1.1 FEDERAL

A. Clean Water Act (33 USC § 1257 et seq.)

The basis of the Clean Water Act was enacted in 1948 and originally called the Federal Water Pollution Control Act. This Act was significantly reorganized and expanded in 1972. Following amendments in 1977, the "Clean Water Act" (CWA) became the Act's common name. The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The Clean Water Act requires states to set standards to protect water quality, which includes regulation of storm water and wastewater discharges during construction and operation of a facility.

The United States Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry and establishing water quality standards for all contaminants in surface waters. The Clean Water Act establishes protection of waters of the United States such as perennial and ephemeral drainages, streams, washes, ponds, pools, and wetlands through CWA Sections 401 and 404.

Section 401

The Clean Water Act made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained as required under Section 401. Per Section 401, any activity which may result in a discharge into waters of the U.S. must be certified by the California State Water Resources Control Board (SWRCB) as administered by the Regional Water Quality Control Boards (RWQCB). This certification ensures that an action does not violate State and/or Federal water quality standards. The proposed project site is located in the jurisdiction of the Colorado River RWQCB.

Section 402 National Pollutant Discharge Elimination System

The Clean Water Act also established the National Pollutant Discharge Elimination System (NPDES) which requires permits for discharges of pollutants from certain point sources into waters of the United States. The Clean Water Act allows the EPA to delegate NPDES permitting authority to states with approved environmental regulatory programs. California is one of the delegated states. In accordance with Section 402(p) (4) of the Clean Water Act, the EPA identifies regulations for NPDES permit applications for stormwater discharges. On November 16, 1990, the EPA published final regulations establishing discharge of stormwater to waters of the United States from construction projects disturbing one or more acres of soil. Projects disturbing areas one acre or greater in size are effectively prohibited unless the discharge complies with an NPDES Permit. State Water Resources Control Board (SWRCB) Order No. 2009-0009, NPDES General Permit No.CAS000002, "General Permit for Stormwater Discharges Associated with Construction Activity", is the active general stormwater construction activity permit for the State of California and RWQCB. This permit would apply to the proposed project.

Section 404

Section 404 of the Clean Water Act regulates the discharge of dredged, excavated, or fill materials in wetlands, streams, rivers, and other United States waters. The United States Army Corps of Engineers (ACOE) is the federal agency responsible for issuing 404 Permits for certain activities conducted in wetlands or other U.S. waters. Section 404 Permits are not granted without a prior 401 certification.

Section 303(d)

Section 303(d) of the Clean Water Act requires states, territories and authorized tribes to develop a list of water bodies not meeting water quality standards even after point sources of pollution have installed minimum levels of pollution control technology. These waters are referred to as “impaired” and are identified on a 303(d) list. Section 303(d) also requires states to develop action plans, called Total Maximum Daily Loads (TMDLs) to improve water quality.

Section 311

Section 311 of the Clean Water Act prohibits the discharge of oil or hazardous materials to waters of the U.S.

B. Federal Emergency Management Agency

Imperial County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted, as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of one in 100 years, although such a flood may occur in any given year. Imperial County is occasionally audited by the Department of Water Resources (DWR) to ensure the proper implementation of FEMA floodplain management regulations. The project site is located on) Flood Insurance Rate Map (FIRM) community-panel number 06025C2050C, dated effective September 26, 2008.

3.11.1.2 STATE

A. The Porter-Cologne Water Quality Control Act

California established its regulations to comply with the Clean Water Act under the Porter-Cologne Water Quality Control Act of 1967. The Porter-Cologne Act grants the State Water Resources Control Board and the nine Regional Water Quality Control Boards power to protect water quality and to adopt water quality criteria to protect State waters. Waters of the State are defined in Section 13050 of the Porter-Cologne Water Quality Control Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Water quality criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. Reporting requirements for waste discharge to waters of the State are set forth in Section 13260. The RWQCBs are authorized to issue Waste Discharge Requirements specifying conditions for protection of water quality in Section 13263. Section 13181 of the Act requires the SWRCB to develop water quality reports and lists required under Section 303(d) of the Federal Clean Water Act.

B. State Water Resources Control Board Construction General Permit Order No. 2010-0014-DWQ

The SWRCB regulates storm water discharges from projects during construction in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES No. CAS000002). Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2010-2014-DWQ, effective February 14, 2011) (SWRCB, 2011a).

Construction activity subject to a Construction General Permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) showing the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (SWRCB, 2011a).

C. Industrial Storm Water General Permit Order 97-03-DWQ

The Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) is an NPDES permit (No. CAS000001) that regulates discharges associated with 10 broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan (SWRCB, 2011b). Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described (e.g. site-specific Best Management Practices to reduce or prevent pollutants associated with industrial activities in storm water discharges). The General Industrial Permit requires that an annual report be submitted annually on July 1.

D. Water Quality Control Plan Colorado River – Region 7

The Water Quality Control Plan (also known as the Basin Plan) establishes beneficial uses in the Colorado River Basin. The Basin Plan also identifies water quality objectives that protect the beneficial uses of surface water and groundwater; describes an implementation plan for water quality management in the Colorado River Region; and describes measures designed to ensure compliance with statewide plans and policies. Overall, the Basin Plan provides comprehensive water quality planning in Region 7 which encompasses all of Imperial County as well as portions of San Bernardino, Riverside and San Diego Counties.

3.11 HYDROLOGY AND WATER QUALITY

3.11.1.3 LOCAL

A. Imperial County General Plan

The Water Element and the Conservation and Open Space Element of the Imperial County General Plan contain policies and programs, created to ensure water resources are preserved and protected. **Table 3.11-1** identifies General Plan policies and programs for water quality and flood hazards that are relevant to the Proposed Action and summarizes the project’s consistency with the General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Conservation and Open Space Element		
Preservation of Water Resources		
<p>Objective 8.4 Ensure the use and protection of the rivers and other waterways in the County. Ensure proper drainage and provide accommodation for storm runoff from urban and other developed areas in manners compatible with requirements to provide necessary agricultural drainage.</p>	Yes	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 – No Action/No Project would rely on existing drainage patterns coupled with proposed detention and retention basins (one of each) to ensure proper drainage and accommodate storm water runoff. A Drainage Study Report prepared by Nolte (2011) confirmed the adequacy of drainage for the proposed project. Existing drainage on the site is adequate and would continue to be with project implementation. Therefore, the Proposed Action, Alternative 1, 2, 3, and 4 are consistent with this objective.</p>
<p>Objective 8.5 Protect and improve water quality and quantity for all water bodies in Imperial County.</p>		<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would improve water quality through compliance with NPDES General Construction Permit, SWPPP, and BMPs during construction. Likewise, an NPDES General Industrial Permit and associated SWPPP and BMPs would control water quality during operations. Design features and BMPs have also been identified by the Applicant (refer to Table 2.0-5 in Chapter 2.0) to address water quality for Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site. No NPDES permit is necessary in association with</p>

3.11 HYDROLOGY AND WATER QUALITY

**TABLE 3.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		Alternative 4 – No Action/No Project. Water quantity would be maintained for the Proposed Action, Alternatives 1, 2, 3 and 4 by retaining the majority of the project site with pervious surfaces. Therefore, the Proposed Action, Alternatives 1, 2, 3 and 4 are consistent with this objective.
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Yes	The majority of the proposed project site is located in Flood Zone “C” (Refer to Figure 3.11-2), with the exception of portions of parcels 052-430-009 and 052-170-050 which fall within the 100-year floodplain, Flood Zone “A”. Zone “C” is defined by the Federal Emergency Management Agency as: Areas of minimal flooding. Zone is defined as “A” as zones in areas where no Flood elevations have been determined. No development is proposed in Zone “A” (Nolte, 2011) as part of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 – No Action/No Project. Therefore, the Proposed Action, Alternatives 1, 2, 3 and 4 are consistent with this program.
Water Element		
Protection of Water Resources from Hazardous Materials		
Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Yes	A drainage report has been prepared for the CSE Facility portion of the project site by Nolte. As noted under Objective 8.5, the project includes design features and BMPs in addition to required compliance with NPDES permits, SWPPP and BMPs during both construction and operation. Therefore, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would not contaminate ground or surface waters. No change in uses would occur in association with implementation of Alternative 4 – No Action/No Project. However, conversion of the site from agricultural uses to a solar farm may improve runoff quality by eliminating use of fertilizers and pesticides on the project site. Therefore, the Proposed Action, Alternatives 1, 2, 3 and 4 are consistent with this program.
Program: All development proposals	Yes	No adverse effects on water quality are anticipated

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**TABLE 3.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity, and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	in association with implementation of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 – No Action/No Project. Therefore, the Proposed Action and Alternatives 1, 2, 3 and 4 are consistent with this Program. Refer to analysis for Objective 8.5.

Source: Imperial County, 1993

B. County of Imperial Land Use Ordinance, Title 9

Division 16 of the Land Use Ordinance addresses Flood Damage Prevention Regulation. The purpose of this division is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provision of design to protect human life and minimize damage. This division of the Land Use Ordinance restricts floodplain uses; requires that floodplain uses be protected against flood damage; controls alteration of floodplains and stream channels; controls filling and grading in floodplains; and prevents diversion of flood flows where these would increase flood hazards in other areas.

Division 22 of the Land Use Ordinance addresses groundwater. The focus of this division is to preserve, protect and manage the groundwater within the County.

C. County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County

The County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County Provides drainage design standards for development throughout the County. Specific standards applicable to the project include:

- Retention volume of 3 inches rainfall with no assumed infiltration or evaporation for development impervious areas. Retention basins are to empty within 72 hours after receiving water.
- Finished pad elevations for buildings shall be at or above the 100-year flood elevation. Finished floors shall be 6 inches above the 100-year flood.
- Drainage report required for all developments.

D. Imperial Irrigation District

IID's Water Department has been serving the Imperial Valley's water needs for 100 years. The district provides raw Colorado River water for irrigation and also for non-potable residential and industrial use. IID receives an average of 3.1 million acre-feet of water each year from the Colorado River. The Imperial

3.11 HYDROLOGY AND WATER QUALITY

Dam, located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona and Mexico. The operations of IID's River Division Office at Imperial Dam, as well as system wide water distribution, all fall under the direction of the United States Bureau of Reclamation (IID, 2011).

Water diverted at Imperial Dam for use in the Imperial Valley first passes through one of three de-silting basins, used to remove silt and clarify the water. From the de-silting basins, water is then delivered to the Imperial Valley through the 80-mile long All-American Canal. To facilitate its delivery, IID operates more than 230 miles of main canals, 1,438 miles of canals and laterals of which 1,456 miles are concrete lined or pipelined, and 1,406 miles of drainage ditches in the Imperial Valley. IID also maintains approximately 1,456 miles of drainage ditches used to collect surface runoff and subsurface drainage from the 32,227 miles of tile drains underlying 426,202 acres of farmland. Most of these drainage ditches ultimately discharge water into either the Alamo River or the New River (IID, 2011).

Three main canals, East Highline, Central Main and Westside Main, receive water from the All-American Canal and are used to deliver water to many canals that exist throughout Imperial Valley. Farmers then divert water directly from these canals to irrigate approximately 479,000 acres of farmland within IID's boundaries. Another important component of IID's distribution system is the seven regulating reservoirs and three interceptor reservoirs that have a total storage capacity of more than 3,300 acre-feet of water (IID, 2011).

As a part of its operating system, IID maintains an extensive gravity flow drainage system. The lateral drain system is laid out to provide a drainage outlet for each governmental subdivision of approximately 160 acres and, as such, the drains usually parallel the canals. There are over 1,456 miles of surface drains that can be divided into three main areas: Alamo River System, New River System and drains that flow directly into the Salton Sea. Approximately 430 control structures are installed along the drainage system. The district is obligated to provide its drains at sufficient depth - generally 6 to 10 feet deep - to accept tile drain discharge. Where the drain cannot be maintained at sufficient depth, a sump and pump are provided and maintained by the district. These drains are used to collect excess surface flow (tailwater) from agricultural fields, subsurface tile discharges and operational discharge from canals and laterals.

The project site is crossed or bordered by several IID features including the Westside Main Canal, the Woodbine Canal, Mt. Signal Drain, Carpenter Drain No. 1, Wells Drain, and Woodbine Lateral No. 2 (refer to Figure 2.0-18 thru 2.0-20 in Section 2.0). In addition, the project site borders several IID trust lands (refer to Figure 3.2-2 in Section 3.2). Any proposed improvements or alterations to IID infrastructure will require coordination with IID. The Applicant will require an encroachment permit from IID to construct three crossings process. Likewise, the project will require an industrial service water agreement with the IID to receive industrial supply water.

3.11.2 AFFECTED ENVIRONMENT

Information contained in this section is summarized from the *Drainage Study Report for Centinela Solar project, Imperial County, California* prepared by Nolte (February 11, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix I** of this EIR/EA.

3.11.2.1 HYDROLOGIC SETTING

The project site is located within the Imperial Hydrologic Unit of the Salton Sea watershed in the Colorado River region. The hydrologic unit code is 18100200 of the USDA National Resources

3.11 HYDROLOGY AND WATER QUALITY

Conservation Services (NRCS). The Salton Sea Watershed encompasses an area of approximately 8,000 square miles that extend from the San Bernardino County in the north to the Valley of Mexicali (Republic of Mexico) in the south (**Figure 3.11-1**). The Salton Sea lies at the lowest point in the watershed (approximately 270 feet below mean sea level) and collects runoff and agricultural drainage from most of Imperial County, a considerable portion of Riverside County, small portions of San Bernardino and San Diego Counties, as well as the northern portion of the Valley of Mexicali.

The principal sources of inflow to the Salton Sea include: the Alamo River, New River, Whitewater River/Coachella Valley Storm Channel, direct drainage from Imperial and Coachella Valleys, subsurface inflow from groundwater, San Felipe Creek, Salt Creek, other smaller local drainages, and direct precipitation onto the Salton Sea (Nolte, 2011).

3.11.2.2 EXISTING HYDROLOGY/DRAINAGE

The CSE Facility portion of the project site is comprised of approximately 2,067 acres of land, approximately 1,861 acres of which are in active agricultural production. This portion of the project site is divided in fields that currently serve, and will continue to serve, as detention basin areas. The CSE Facility site is comprised of 33 drainage basins associated with the individual project parcels. Most of the basins are surrounded by a combination of canals, drains, dirt access roads, earthen drainage swales and County roads, and all of these are elevated features that vary from 18- to 60-inches in height projected from the average existing ground elevation inside the agricultural fields. These elevated features detain and keep the storm water inside the agricultural fields during the rain events (Nolte, 2011).

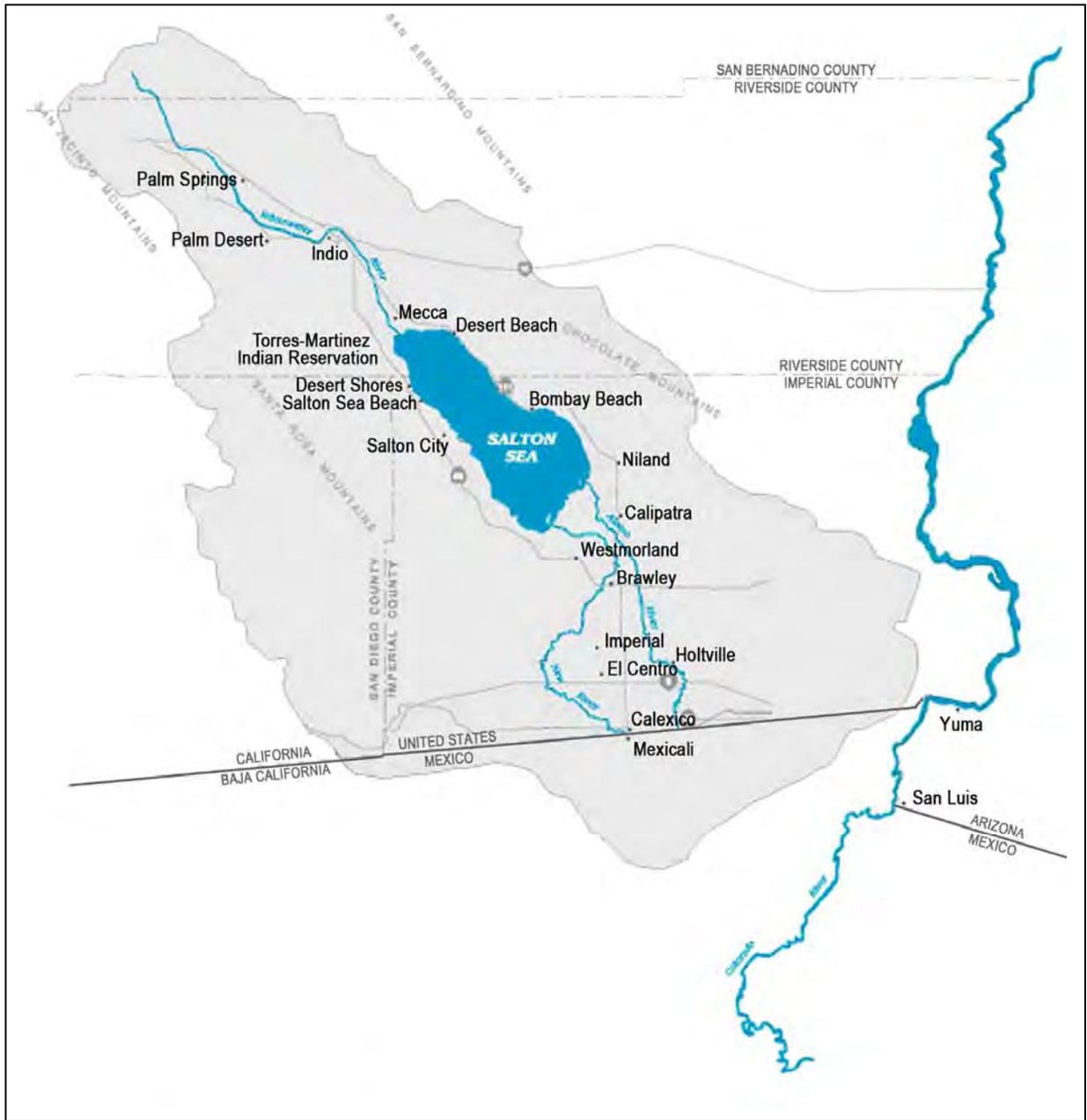
Approximately 4.25 miles of the Gen-tie Line extends BLM land, first west then north, to connect with the Imperial Valley Substation. Two unnamed washes oriented east-to-west traverse the area beneath a segment of the proposed Gen-tie Line. These two washes are designated as Zone A per the FEMA FIRM depicting this portion of Imperial County (community-panel number 06025C2050C, dated effective September 26, 2008).

A. On-Site Drainage

The CSE Facility portion of the project site is currently agricultural land. As a result, it is undeveloped, unpaved and highly pervious. Based on these characteristics, the majority of rainfall is usually absorbed by the soil or percolates into the groundwater table. Current drainage patterns on the project site generally direct storm water runoff through the agricultural fields and convey all tributary storm water runoff via existing outlet structures to the Imperial Irrigation District (IID) Drains located throughout the project site (Nolte, 2011).

As described above, the portion of the Gen-tie Line on BLM land has existing drainage features in the form of washes. The washes are oriented east-to-west under a segment of the Gen-tie Line. Further to the west the two washes converge and align to the southwest. To the east the washes converge and extend across BLM land through private property and terminate at the Mount Signal Drain (**Figure 3.11-2**).

3.11 HYDROLOGY AND WATER QUALITY



Source: DWR, 2011; Nolte, 2011.

FIGURE 3.11-1
SALTON SEA WATERSHED

3.11 HYDROLOGY AND WATER QUALITY

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B. Off-site Drainage

The CSE Facility portion of the project intends to maintain the current off-site drainage conditions as they currently exist. Most County roads through the project site drain to existing earthen drainage swales adjacent to the roadway shoulders. The drainage swales collect storm water from rain events and convey it to an existing IID drain facility. Some portions of roadway were thought to contribute storm water to the project site. However, after conducting field surveys, reconnaissance trips, and hydrology calculations, off-site drainage was determined to contribute minimal amounts of stormflow on the project site (Nolte, 2011).

Storm water contributions from State Route (SR) 98 drain directly to the drainage swales located along both sides of the highway. Thus, SR 98 does not contribute storm water volumes to the project site (Nolte, 2011).

The two unnamed washes oriented east-to-west on BLM land provide off-site drainage. The two washes converge as they extend eastward ultimately terminating at the Mount Signal Drain (**Figure 3.11-2**).

3.11.2.3 EXISTING FLOODING

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (community-panel number 06025C2050C, dated effective September 26, 2008), the majority of the CSE Facility site is located in Flood Zone X (**Figure 3.11-2**). Zone X is defined by FEMA as areas determined to be outside of the 0.2 percent annual chance floodplain. Minor portions of two parcels (052-430-009 and 052-170-050) are within the 100-year floodplain (Flood Zone A) adjacent to the Greeson Wash. FEMA defines Zone A as areas with a 1 percent annual chance of flooding and “areas where no flood elevations have been determined” (Nolte, 2011). No development of the CSE Facility site would occur in Zone A.

Two unnamed washes oriented east-to-west through BLM land would be spanned by a segment of the Gen-tie Line. The washes are designated as Zone A. Existing 230-kV structures on BLM land next to the proposed Gen-tie Line are within Zone A. Likewise, the proposed Gen-tie Line alignment includes one tower structure (#13) within Zone A (Crawford, 2011).

3.11.2.4 EXISTING WATER QUALITY

A. Groundwater

Groundwater was encountered at depths ranging from 14 feet to 24 feet below ground surface based on 15 soil borings conducted as part of the geotechnical investigation conducted for the CSE Facility site (Landmark, 2011). The soil boring logs note that groundwater levels could rise to as high as 8 feet below ground surface (refer to Appendix B of Preliminary Geotechnical Investigation Report included as **Appendix E** of this EIR/EA) (Landmark, 2011).

Groundwater in the area of the project is brackish (having a high salt content). Agricultural practices in the Imperial Valley, including the project site, consist of aerial and ground application of pesticides and application of chemical fertilizers to both ground and irrigation water. Most of the agricultural fields in the valley are underlain by tile drainage systems (perforated pipelines encapsulated by sand/gravel) installed at a depth of approximately 5- to 7-feet below the ground surface. The tile drains remove excess water to maintain groundwater below the root system of crops and remove soluble salts and compounds leached from the soil during irrigation (GS Lyon, 2011b).

3.11 HYDROLOGY AND WATER QUALITY

The U.S. Geological Survey, at the request of the Imperial Irrigation District, performed a “one time” water quality study of 27 irrigation drains throughout the Imperial Valley during the summer of 1994. Review of the study results indicate that the drains sampled contained less than the regulatory limits of arsenic, selenium, and nitrites for drinking water (GS Lyon, 2011b).

B. Surface Water Quality

The following description of surface water quality was taken from the Imperial County General Plan Water Element (Imperial County, 1993b). While surface waters are not anticipated to be impacted by the project or used as a water supply source, the discussion of surface water quality provides context on the condition of surface waters in the region and the Imperial Valley.

Three general categories describe the surface water in Imperial County: freshwater, brackish water, and saline water. Freshwater (with total dissolved solids [TDS] generally less than 1,000 parts per million [ppm]) include the All-American Canal and other canals and laterals which deliver irrigation water to the agricultural fields within the County. The brackish waters (with TDS in the range of 2,000 to 4,000 ppm) include the Alamo River, New River and the agricultural drains that flow into these rivers or directly into the Salton Sea. The Salton Sea represents the saline water category. Salinity concentrations are currently slightly higher than those of ocean water (the Salton Sea's current TDS is approximately 44,000 ppm) (Imperial County, 1993b, p. 9).

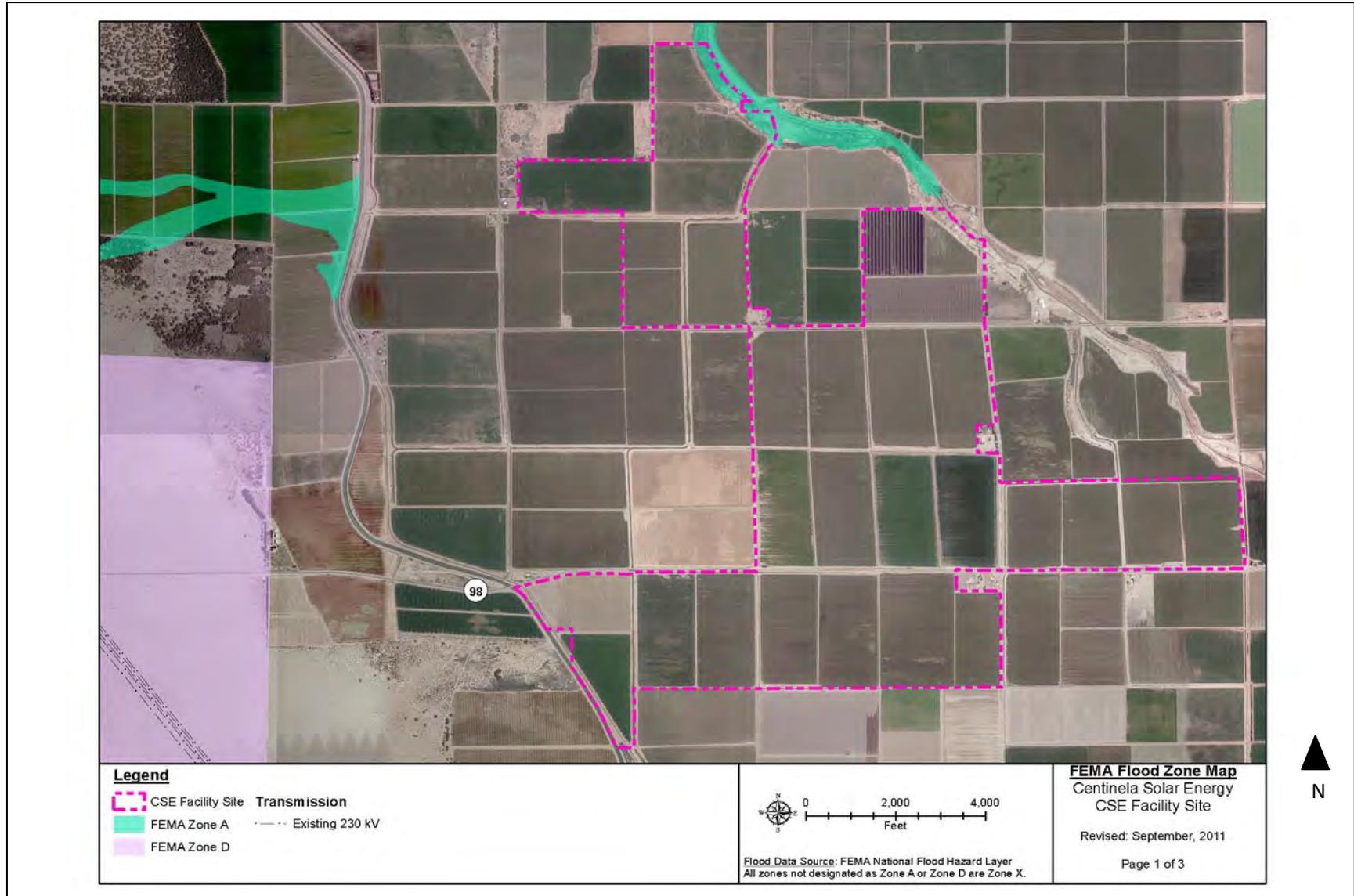
Colorado River

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland (Imperial County, 1993b, p. 39). The heavy salt load in the Colorado River results from both natural and human activities.

In 1975, the seven Colorado River Basin States (California, Arizona, Nevada, Utah, Wyoming, Colorado and New Mexico), with the Environmental Protection Agency's approval, adopted water quality standards for river salinity. Although Lower Colorado River water still has a relatively high total of dissolved solids when compared to its headwaters, the water quality of the water supplied to the Imperial Valley is fairly good (Imperial County, 1993b, p. 39).

Salt buildup also occurs as the water flows through the Colorado River system for agricultural and other beneficial uses. Erosion of the banks of the Colorado River and its tributaries has also resulted in a large sediment load.

3.11 HYDROLOGY AND WATER QUALITY



Source: CSE, 2011.

FIGURE 3.11-2
 FEMA MAP

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All American Canal

At the Imperial Dam, water is diverted west to the All-American Canal, which conveys water to the Bard Valley in California, and to the agricultural areas of the Imperial and Coachella Valleys. The salinity of the water in the All-American Canal fluctuates from a low of 737 ppm (1.00 ton per acre-foot of water) to a high of 958 ppm (1.30 tons per acre-foot of water) (Imperial County, 1993b, p. 43). Without salinity control projects in the Colorado River basin, the salt concentration of this water would increase. However, water quality data for the All-American Canal indicate water suitable for continued agricultural use. All-American Canal flows are considered freshwater.

Alamo River

The Alamo River flows into Imperial County from Mexico carrying brackish water with TDS in the range of 2,000 to 4,000 ppm. Field erosion and dredging activities contribute to siltation in the Alamo River and ultimately, the Salton Sea. Presently, the Alamo River is very small as it crosses into the United States and carries agricultural water coming from agricultural fields in Mexico (Imperial County, 1993b, p. 14). The main pollutants in the water are pesticides which get drained into the Alamo River during irrigation. However, the potential for polluting the Alamo River could increase not only from the pesticides contained in the water but from potential development at or near the Alamo River at the International Boundary.

New River

The New River flows into the Imperial Valley from Mexico with a significantly high waste load. Seasonal variations in contaminant loads correspond to a late winter planting and irrigation, and a fallow fall season. The contaminant load indicates the intensive use of this water for irrigation in Mexico and the presence of municipal wastewater from Mexicali (Imperial County, 1993b, p. 43). As this drainage flows through the County, the flow increases dramatically as a result of drainage from the agricultural lands in the Imperial Valley. New River water is considered brackish.

Salton Sea

The historic data on the Salton Sea shows a gradual increase in the concentration of dissolved salts. This increase has resulted from the high evaporation rates and continual inflow of drainage waters with high salt loads from canals and laterals in Imperial Valley and from agricultural activity in Mexico. The Salton Sea has no outlet, occurring in a fault-controlled sub-sea level basin. Waters in the Salton Sea are considered saline.

At present, the primary water quality problem facing the Salton Sea continues to be increasing salinity and associated selenium buildup. Approximately five million tons of salt per year are carried into the Salton Sea. Selenium entering the Salton Sea originates from the Colorado River which contains approximately one to two part per billion (ppb) of selenium (Imperial County, 1993b, p. 56). As the Colorado River water is brought into Imperial Valley by various canals, the selenium becomes concentrated due to the evaporation and evapotranspiration that occurs during farming of agricultural fields. The agricultural drains then carry this selenium enriched water into the Salton Sea. The New and Alamo Rivers contain approximately seven to eight parts per billion of selenium (ppb) when they reach the Sea. The selenium is taken up and concentrated by small organisms (e.g. fish), which in turn, are eaten by larger organisms (e.g. birds).

SECTION 3.12
BIOLOGICAL RESOURCES

3.12 BIOLOGICAL RESOURCES

This section provides a background discussion of the regulatory framework and the affected environment. The regulatory framework discussion focuses on the federal, state, and local regulations. The affected environment discussion focuses on the topography and soils, general vegetation, general wildlife, sensitive biological resources, riparian habitat and sensitive natural communities, jurisdictional waters, habitat connectivity and wildlife corridors, and the California Desert Conservation Area. Information contained in this section is summarized from two documents prepared by Heritage Environmental Consultants, LLC: the *Biological Technical Report for the Centinela Solar Energy Project* (Heritage, 2011a) and the “Centinela Solar Energy Project Biological Technical Report Addendum 1” (Heritage, 2011b). The Biological Technical Report (BTR) and Addendum are provided on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA.

3.12.1 REGULATORY FRAMEWORK

3.12.1.1 FEDERAL

A. Endangered Species Act

Endangered Species Act of 1973 (16 United States Code [USC] 1531–1544), as amended (ESA), protects federally listed threatened and endangered species from unlawful take. “Take” under ESA includes activities such as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The United States Fish and Wildlife Service (USFWS) regulations define harm to include some type of “significant habitat modification or degradation.”

Section 7 of the ESA requires federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. When a federal agency action (such as issuance of a permit or grant of right-of-way) may affect a federally listed species, the federal action agency requests initiation of either formal or informal consultation with USFWS. The final product of formal Section 7 consultation is a biological opinion in which USFWS determines whether the proposed action is likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. If the determination is yes, the USFWS will recommend reasonable and prudent alternatives to the proposed action that would reduce the level of impact to no jeopardy/no adverse modification of critical habitat. A biological opinion may include an incidental take statement that provides the federal agency and the project applicant with incidental take authority for the activities evaluated in the biological opinion. The regulations implementing Section 7 of ESA require federal agencies to conference with the USFWS for any species that is proposed as a candidate for federal listing so that USFWS can provide non-binding recommendations that will avoid or minimize impact to the species. The USFWS may, if requested, conduct the conference as a formal consultation by providing a conference opinion and incidental take statement. If the species becomes listed, the USFWS may adopt the incidental take statement provided in the biological opinion, thus conferring incidental take authority.

B. Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA; 16 USC 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and listed at 50 Code of Federal Regulations (CFR) 10.13. The regulatory definition of “migratory bird” is broad, and includes any mutation or hybrid of a listed

species and any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened species under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

C. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668-668c), enacted in 1940 and as amended, prohibits anyone, without a permit issued by the USFWS, from "taking" bald and golden eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." For purposes of these guidelines, "disturb" means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

D. Federal Water Pollution Control Act (Clean Water Act)

The Clean Water Act (CWA; 33 USC 1251 et seq.), as amended, provides a structure for regulating discharges into the waters of the U.S. Through this Act, the Environmental Protection Agency is given the authority to implement pollution control programs. These include setting wastewater standards for industry and water quality standards for contaminants in surface waters. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under its provisions is acquired. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the CWA. Section 404 of the CWA regulates the discharge of dredged, excavated or fill material in wetlands, streams, rivers, and other waters of the U.S. The U.S. Army Corps of Engineers (ACOE) is the federal agency authorized to issue Section 404 Permits for certain activities conducted in wetlands or other waters of the U.S. Section 401 of the CWA grants each state the right to ensure that the State's interests are protected on any federally permitted activity occurring in or adjacent to Waters of the State. In California, the RWQCBs are the agencies mandated to ensure protection of the State's waters. For a proposed project that requires an ACOE CWA Section 404 permit and has the potential to impact Waters of the State, the RWQCB will regulate the project and associated activities through a Water Quality Certification determination (Section 401).

E. California Desert Conservation Area (CDCA)

The CDCA encompasses 25 million acres of land in southern California designated by Congress in 1976 through the Federal Land Policy and Management Act (FLPMA). The BLM directly administers approximately 10 million acres of the CDCA. The CDCA Plan-designated Yuha Basin Area of Critical Environmental Concern (ACEC) Management Plan was prepared to give additional protection to unique cultural resources and wildlife values found in the region while also providing for multiple use management. The ACEC Management Plan allows for the “traversing of the ACEC by proposed transmission lines and associated facilities if environmental analysis demonstrates that it is environmentally sound to do so.

3.12.1.2 STATE

A. California Endangered Species Act

The California Endangered Species Act of 1984 (CESA) provides a framework for the listing and protection of wildlife species determined to be threatened or endangered in California.

B. California Fish and Game Code 3503.5

Raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is “unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird” unless authorized.

C. California Fish and Game Code 3503

Bird nests and eggs are protected by the California Fish and Game Code 3503, which states “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

D. California Fish and Game Code 3513

Protects California’s migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds.

E. State of California Fully Protected Species

The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have also been listed as threatened or endangered species under ESA and/or California Endangered Species Act (CESA). Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

F. California Fish and Game Code, Section 1600, as amended

Under Section 1602 of the Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction over riparian habitats (e.g., southern willow scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFG jurisdiction does not include tidal areas or isolated resources. Section 1602 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFG before beginning the project. If the CDFG determines that the project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required.

G. Native Plant Protection Act

The Native Plant Protection Act (California Fish and Game Code Section. 1900-1913; NPPA) prohibits the taking, possessing, or sale within the state of any plant listed by CDFG as rare, threatened, or

endangered. An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFG at least 10 days prior to the initiation of activities that would destroy them. The NPPA exempts from “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.”

H. Porter-Cologne Water Quality Control Act, as amended

The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and the RWQCBs power to protect water quality and is the primary vehicle for implementation of California’s responsibilities under the federal Clean Water Act. Any person proposing to discharge waste into a water of the State must file a report of waste discharge with the appropriate regional board.

3.12.1.3 LOCAL

A. Imperial County General Plan

Table 3.12-1 analyzes the consistency of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - No Action/No Project Alternative with the applicable policies relating to biological resources from the Imperial County General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>Open Space Conservation Policy: The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County.</p> <p>Program: Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.</p>	<p>Yes</p>	<p>A biological technical study was prepared for the Project. The BTR and Addendum (Heritage, 2011a and 2011b) is a composite of several different surveys and studies that were performed in the project area in an effort to identify biological resources that are present and could be affected by the Project. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR/EA prior to the County’s consideration of any project’s approvals.</p>
<p>Land Use Element Policy: The General Plan covers the unincorporated area of the County and is not site specific, however, a majority of the privately owned land is located in the area identified by the General Plan as “Agriculture,” which is also classified as important burrowing owl</p>	<p>Yes</p>	<p>A biological technical study was prepared for the Project. The BTR and Addendum (Heritage, 2011a and 2011b) is a composite of several different surveys and studies, including a burrowing owl survey that was performed in the project area in an effort to identify biological resources that are present and could be affected by the Project.</p>

**TABLE 3.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>habitat, typically in the berms and banks of agricultural fields.</p> <p>Program: Prior to approval of development of existing agricultural land either in form of one parcel or a numerous adjoining parcels equally a size of 10 acres or more shall prepare a Biological survey and mitigate the potential impacts. The survey must be prepared in accordance with the United States Fish and Wildlife and California Department of Fish and Game regulations, or as amended.</p>		<p>Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR/EA prior to the County's consideration of any project's approvals.</p>

3.12.2 AFFECTED ENVIRONMENT

The affected environment addressed in this portion of the analysis includes CSE Facility site and Gen-tie Line on private lands. The total survey area includes the project site plus a buffer area that collectively totals 5,418 acres. The following sections describe the existing conditions of the portion of the survey area located on private lands (**Figure 3.12-1**). The survey area on private lands totals 4,213 acres. The existing conditions of the survey area located on lands managed by the BLM are discussed in subsection 3.12.3. That portion of the survey area totals 1,205 acres.

3.12.2.1 TOPOGRAPHY AND SOILS

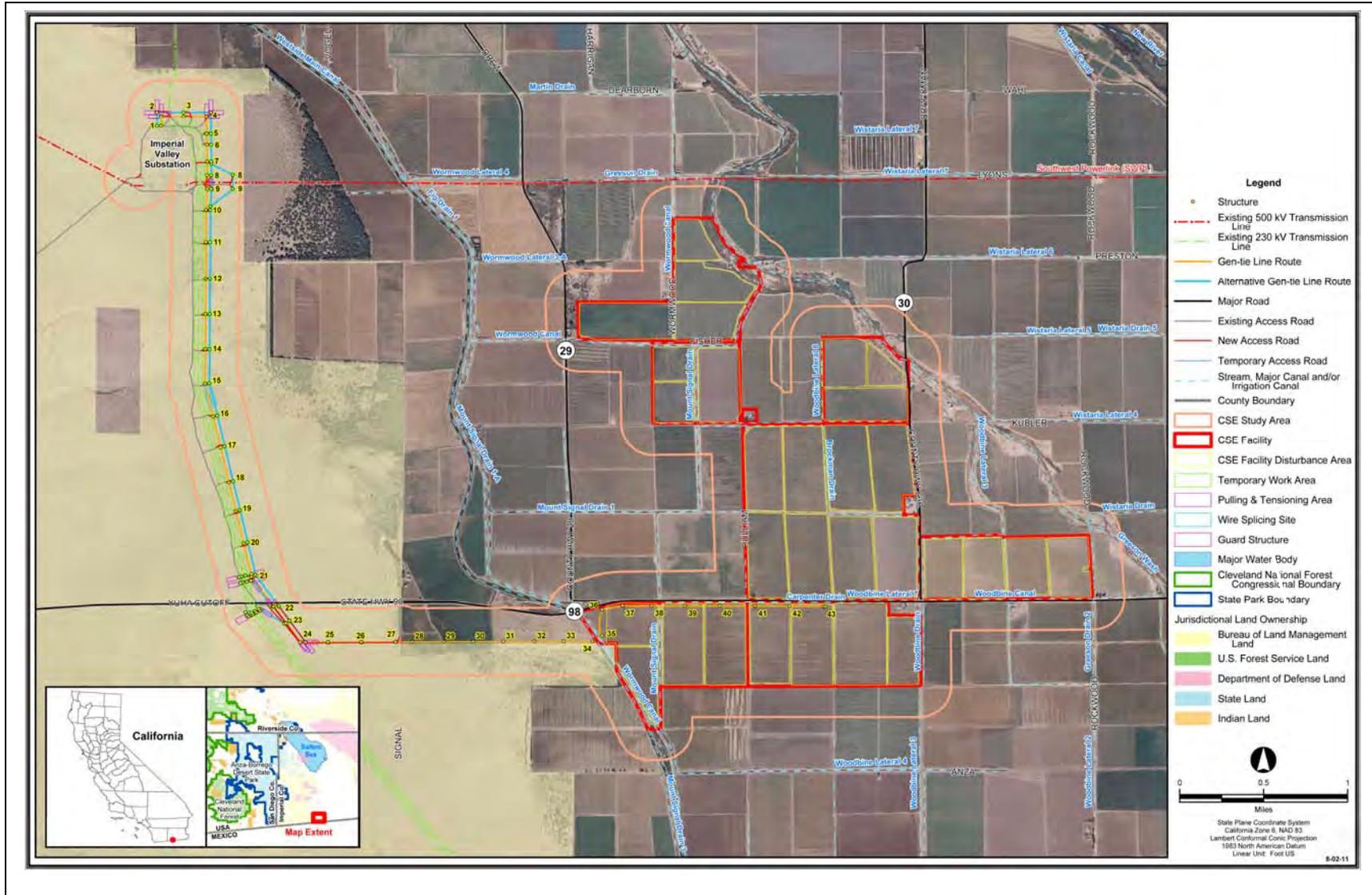
The survey area is located in the Yuha Basin of the Colorado Desert between agricultural lands to the north, south, and east and native desert to the west, as well as within active agricultural lands. Alluvial fans and small washes traverse through the Gen-tie Line corridor at various locations, flowing northeast from Mount Signal toward the Westside Main Canal. Most of these drainage features are interrupted by agricultural fields before they reach the Canal (i.e., they are isolated). The uplands between the washes are relatively flat, with sparse vegetation and sand that ranges from soft and rolling to flat and compact. Elevation of the survey area ranges from sea level to 60 feet above mean sea level. The proposed CSE Facility is comprised of active agricultural fields.

There are eight major soil types found within the survey area: Rositas, Niland, Carsitas, Glenbar, Imperial, Indio-Vint, Holtville, and Meloland soils. These soils are primarily found on flat basin floors and are formed from clay, silt, and sandy alluvium materials.

3.12.2.2 GENERAL VEGETATION

Vegetation communities were mapped within the survey area on a one-inch-equals-400- foot color aerial photograph. The Vegetation Mapbook is provided on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA. A total of 95 plant species, representing 33 plant families, were identified

3.12 BIOLOGICAL RESOURCES



Source: Heritage, 2011a.

FIGURE 3.12-1
STUDY AREA

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3.12 BIOLOGICAL RESOURCES

within the survey area. Of this total, 78 (82 percent) are native to southern California and 17 (18 percent) are non-native, introduced species. A complete list of plant species observed in the Project Area can be found in Attachment 2 in **Appendix J** of this EIR/EA.

Seventeen vegetation communities were mapped within the private land survey area (**Table 3.12-2**). Vegetation community classifications provided herein follow A Manual of California Vegetation and Preliminary Descriptions of the Terrestrial Natural Communities of California. Communities that are similar in composition were lumped together in the discussion following **Table 3.12-2**. Goldenbush scrub and disturbed wetland are not discussed because there is very little habitat and they will not be impacted.

**TABLE 3.12-2
VEGETATION COMMUNITIES/LAND COVER TYPES
WITHIN THE CSE FACILITY AND GEN-TIE LINE (PRIVATE LANDS) SURVEY AREA**

Vegetation Community	Acres
Agriculture (AG)	3,740.8
Arrow Weed Scrub (AS)	3.7
Arrow Weed Scrub -Disturbed (AS-D)	1.1
Arrow Weed Scrub/Tamarisk Scrub (AS/TS)	85.2
Arrow Weed Scrub/Tamarisk Scrub -Disturbed (AS/TS-D)	19.5
Tamarisk Scrub (TS)	0.5
Tamarisk Scrub – Disturbed (TS-D)	97.4
Big Salt Bush Scrub – Disturbed (BSS-D)	4.8
Big Salt Bush Scrub – Bush Seepweed Scrub (SBSS)	5.4
Creosote Bush – White Bursage Scrub (CBS)	97.8
Creosote Bush – White Bursage Scrub -Disturbed (CBS-D)	25.9
Goldenbush Scrub (GS)	9.2
Mesquite Woodland (MW)	6.0
Palo Verde Woodland (PVW)	1.4
Developed/Disturbed Habitat (DEV/DH)	98.1
Disturbed Wetland (DW)	2.8
Open Water	13.6
Total (Private Lands)	4,213.2

Source: Heritage, 2011a and 2011b.

A. Creosote Bush-White Bursage Scrub (CBS and CBS-D)

Creosote bush–white bursage scrub (including the disturbed component) is only a minor component of the survey area and accounts for 123.7 acres (less than 3-percent of the private land survey area). This community is dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) with relatively sparse vegetative cover and flat topography. Four-wing saltbush (*Atriplex canescens*) and many fruit saltbush (*Atriplex polycarpa*) are present as sporadic minor associates. Small subshrubs present include: California croton (*Croton californicus*), plicate coldenia (*Tiquilia plicata*) and three-fork ephedra (*Ephedra trifurca*). A number of herbaceous perennial and annual species that offered a sparse herbaceous layer between shrubs were observed during the spring surveys. These species include desert

sunflower (*Geraea canescens*), smooth-ray desert marigold (*Baileya pauciradiata*), desert sand verbena (*Abronia villosavar* var. *villosa*), Spanish needles (*Palafoxia arida* var. *arida*), desert dandelion (*Malacothrix glabrata*), frost mat (*Achyronychia cooperi*), desert lily (*Hesperocallis undulata*), basket evening primrose (*Oenothera deltoides*), sun cup (*Camissonia brevipes*), pincushion flower (*Chaenactis stevioides*), desert cambess (*Oligomeris linifolia*), narrow-leaved forget-me-not (*Crypthantha angustifolia*), and Mediterranean grass (*Schismus barbata*).

B. Agriculture (Ag)

Active agricultural fields encompass 3,740.8 acres of the survey area (approximately 89 percent of the private land survey area). The vast majority of the proposed CSE Facility and a portion of the Gen-tie Line occur in this habitat type. Alfalfa, Bermuda grass, and wheat are currently the primary crops within the fields.

C. Arrow Weed Scrub (AS and AS-D)

Arrow weed (*Pluchea sericea*) has established along the edges of some irrigation canals in many locations, forming 2- to 10-foot-deep arrow weed thickets. In many instances these thickets largely exclude other plant species. Under more open situations, tamarisk and cattails (*Typha latifolia*) can co-occur and dominate in the canal bottoms. In open areas along the banks, weedy invasive species such as barnyard grass (*Echinochloa* sp.) and dock (*Rumex* sp.) are present.

Approximately 4.8 acres of arrow weed scrub (including the disturbed component) is present along the IID-managed canals (<0.1 percent of the private land survey area). Most of these areas are regularly cleared of this vegetation and they are constantly changing.

There are two small patches of typha and typha/phragmites habitat included in this calculation and lumped with this habitat type. A one-acre patch occurs along the Mount Signal Drain at the southern boundary of the CSE facility; a 0.4-acre patch occurs along the Mount Signal Drain just north of Fisher Road.

D. Arrow Weed Scrub/Tamarisk Scrub and Tamarisk Scrub (AS/TS, AS/TS-D, TS and TS-D)

Tamarisk thickets throughout the survey area are dominated by athel (*Tamarix aphylla*) and tamarisk (*T. ramosissima*). Athel has been planted between the agricultural fields and the Westside Main Canal. This species is encroaching into the desert scrub community to the west. Elsewhere through the survey area, tamarisk is associated with the earthen drains and canals. Periodic disturbances associated with vegetation removal in these facilities, promotes the continued establishment of tamarisk. Generally this species is sporadic along these aforementioned drains and canals. The more frequent the vegetation clearing the less prevalent the tamarisk. Approximately 202.6 acres (approximately 5 percent of the private land survey area) of arrow weed/tamarisk scrub and tamarisk scrub are present.

E. Big Salt Bush Scrub – Bush Seepweed Scrub (SBSS and BSS-D)

Small areas on the CSE facility that have been previously disturbed are now occupied by big saltbush (*Atriplex lentiformis*). Big saltbush is a large dense shrub forming impenetrable linear stands that line many of the berms and roads adjacent to some agricultural fields in the area. Generally no other native species are associated with big saltbush in these areas. Approximately 10.2 acres (<0.1 percent of the private land survey area) of big salt bush scrub is present.

F. Palo Verde Woodland (PVW)

A small area of blue palo verde (*Cercidium floridum* ssp. *floridum*) occurs adjacent to Greeson Wash, contiguous with the native habitats along Greeson Wash. These individuals are alongside a dirt road that borders one of the agricultural fields and as such has no understory species associated with this community. The understory is used for the placement of bee keeping hives. Approximately 1.4 acres (<0.1 percent of the private land survey area) of palo verde woodland is present.

G. Developed/Disturbed Habitat (DEV/DH)

Approximately 98.1 acres of developed/disturbed land occur within the survey area (approximately 2 percent of the private land survey area). These areas contain little to no vegetation. Disturbed areas include areas adjacent to the Imperial Valley Substation, State Route (SR) 98, and some of the larger canals. These areas are usually kept bare of vegetation by constant vehicle traffic but may support non-native weed species. Developed areas consist of lands that lack vegetation and include the Imperial Valley Substation, residential dwellings, agricultural buildings and storage areas.

H. Mesquite Woodland (MW)

The mesquite habitat along the southern portion of the Gen-tie just west of the Westside Main Canal is dominated solely by honey mesquite (*Prosopis glandulosa* var. *torreyana*). The stands are very dense and impenetrable. The density of the mesquite precludes the presence of any other plant species growing within these stands. Approximately 6.0 acres (<1 percent of the private land survey area) of mesquite - catclaw scrub, mesquite bosque, and mesquite woodland is present.

I. Open Water (OW)

The Westside Main Canal, as well as other agricultural irrigation canals that are unvegetated but holding water, are classified as open water. Approximately 13.6 acres (<1 percent of the survey area) occur in this cover type.

3.12.2.3 GENERAL WILDLIFE

The wildlife species observed in the private lands within survey area were typical of the disturbed and agricultural habitats, which provide cover, foraging, and breeding habitat for a variety of wildlife species. A table entitled Wildlife Species Observed/Detected in Study Area (Attachment 3 included on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA) provides a list of all wildlife species observed.

A. Invertebrates

The survey area contains suitable habitat for a wide variety of invertebrates. Within the agricultural fields and along portions of the Gen-tie Line, harvester ants (*Pogonomyrmex* spp.), grasshoppers (*Orthoptera* spp.) and flies (*Diptera* spp.) were observed regularly.

Cabbage white (*Pieris rapae*) and other butterflies and moths (*Lepidoptera* spp.) were also regularly observed in all portions of the survey area.

B. Amphibians

Most amphibians require moisture for at least a portion of their life cycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

American Bullfrog (*Rana catasbeiana*) was the only amphibian observed in the survey area. Bullfrogs were regularly seen and/or heard in several of the large drains that carry water almost permanently.

C. Reptiles

The diversity and abundance of reptile species varies with habitat type. Many reptiles are restricted to certain plant communities and soil types, although some of these species would also forage in adjacent communities. Other species are more ubiquitous, using a variety of vegetation types for foraging and shelter. A diverse list of species of lizards and snakes could be expected to inhabit both agricultural and/or desert habitats.

No reptile species were observed in the private land portions of the survey area.

D. Birds

The diversity of bird species varies with respect to the character, quality, and diversity of vegetation communities. Due to the homogeneity of much of the habitat within the private land portions of the survey area, bird diversity was relatively low, but did increase in and around the larger drains and Greeson Wash.

A large number of Cliff Swallow (*Petrochelidon pyrrhonota tachina*) and Northern Roughwinged Swallows (*Stelgidopteryx serripennis*) are present near the SR 98 bridge that crosses over the Westside Main Canal immediately west of the CSE Facility. The underside of the bridge is host to hundreds of mud-nests. The active agricultural fields also provide suitable foraging habitat for these birds.

During winter avian use surveys, Western Meadowlark (*Sturnella neglecta*) was the most frequently detected species (264 total detection; 2.06 detections per point) as well as the most widespread, having been observed at 86 points (67.19 percent). Other frequently detected species include Horned Lark (*Eremophila alpestris*; 16 detections, 0.98 detections per point), Black Phoebe (*Sayornis nigricans*; 47 detections, 0.37 detections per point), Long-billed Curlew (*Numenius americanus*; 40 detections, 0.31 detections per point), and Song Sparrow (*Melospiza melodia*; 32 detections, 0.25 detections per point). Other widespread species include Horned Lark (64 points, 50.0 percent), Black Phoebe (40 points, 31.25 percent), and Mourning Dove (*Zenaida macroura*; 30 points, 23.44 percent). Horned Larks were by far the most numerous species during the survey (747 observed; 25.94 percent of all individuals observed). Long-billed Curlews were the second most numerous species (492 observed, 17.08 percent of all individuals observed). The most commonly observed species were all common agricultural associates.

During the spring avian use surveys, Red-winged Blackbird was the most frequently detected species (413 total detection; 3.23 detections per point). Other frequently detected species include Western Meadowlark (*Sturnella neglecta*; 341 detections, 2.66 detections per point), Long-billed Curlew (*Numenius americanus*; 48 detections, 0.38 detections per point), Mourning Dove (*Zenaida macroura*; 40 detections; 0.31 detections per point), Horned Lark (*Eremophila alpestris*; 36 detections, 0.28

detections per point) and Cliff Swallow (*Petrochelidon pyrrhonota*; 32 detections; 0.25 detections per point). Western Meadowlark was the most widespread having been observed at 88 points (68.75 percent). Other widespread species includes Red-winged Blackbird (86 points, 67.19 percent), Horned Lark (31 points, 31, 24.22 percent), Mourning Dove (31 points, 24.22 percent) Cliff Swallow (26 points, 20.31 percent), and Long-billed Curlew (*Numenius americanus*; 26 points, 20.31 percent). Red-winged Blackbirds were by far the most numerous species during the survey (3,835 observed; 54.56 percent of all individuals observed). Other numerous species included Cattle Egrets (*Bubulcus ibis*; 792 observed, 11.27 percent of all individuals observed) and Long-billed Curlews (725 observed, 10.31 percent of all individuals observed). As was observed in the winter surveys, the most common species were common agricultural associates.

E. Mammals

Suitable mammal habitat is limited in the agricultural lands within the survey area. Desert black-tailed jackrabbit (*Lepus californicus deserticola*), desert cottontail (*Sylvilagus audubonii*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert kangaroo rat (*Dipodomys deserti deserti*), and coyote (*Canis latrans*) were detected often within all project component survey areas through direct observation as well as burrows, tracks, and scat, though not as frequently as in native habitats.

3.12.2.4 SENSITIVE BIOLOGICAL RESOURCES

A. Special Status Plant Species

No sensitive plant species were observed on the CSE Facility, private land portions of the Gen-tie line or associated buffers, and none are expected to occur given the limited amount of suitable native habitat and the ongoing disturbances related to the agricultural activities.

Federally Listed Species

Based on the literature review, no federally-listed threatened or endangered plant species were identified as having the potential to occur within the survey area. No federally-listed threatened or endangered species were observed during focused rare plant surveys.

State-listed Species

Based on the literature review, no state-listed plant species were identified as having the potential to occur within the private lands portion of the survey area. No state-listed species were observed on-site during focused rare plant surveys.

BLM Sensitive Species

BLM sensitive species include all species currently on CNPS List 1B, as well as others that are designated by the California BLM State Director. No BLM sensitive plant species were identified as having the potential to occur within the private lands portion of the survey area. No BLM sensitive species were observed during focused rare plant surveys.

Priority Plant Species

Priority plant species are rare, unusual, or key species that are not sensitive by BLM or listed as threatened and endangered. Priority plant species are specifically plants that are included on the CNPS Lists 2–4.

Two priority plant species were identified as having the potential to occur within the private lands portion of the survey area, including California satintail (*Imperata brevifolia*) and Dwarf germander (*Teucrium cubense* ssp. *depressum*). These species are discussed below.

California satintail (*Imperata brevifolia*). California satintail is reported immediately east of the site. This species occurs in desert wash and riparian scrub habitats. It has a moderate to high potential to occur within the riparian areas along Greeson Wash on the northern portion of the CSE Facility. This species is not expected to occur along the southern portion of Greeson Wash on the CSE Facility due to the disturbed condition of the wash, nor is it expected to occur within the drains and canals on the remainder of the CSE Facility. The riparian habitat along the larger canals and drains on the CSE Facility support non-native (e.g., tamarisk) or native species that grow in very dense stands (cattails and arrow weed) that generally restrict the presence of other species due to their density, and they are periodically cleared of vegetation; therefore, this uncommon species is not expected to occur within these features.

Dwarf germander (*Teucrium cubense* ssp. *depressum*). Dwarf germander is another species that has a moderate to high potential to occur within the riparian areas along Greeson Wash on the northern portion of the CSE Facility. This species occurs in wet sandy washes. This species is not expected to occur along the southern portion of Greeson Wash due to the disturbed condition of the wash, nor is it expected to occur within the drains and canals on the remainder of the CSE Facility.

B. Special Status Wildlife Species

Fifteen special status wildlife species were determined to have the potential to occur within survey area and those whose occurrence is most pertinent to the private land portions of the survey area are discussed in detail below. This include federally listed species, state listed species, and BLM sensitive species that are known to occur in the Imperial Valley, as well as CDFG species of special concern that were observed during surveys.

Federally Listed Species

The following federally listed species are discussed in this section because their habitat requirements and/or potential for occurrence are most pertinent to the private land portion of the survey area, though the following discussions evaluate the potential for occurrence in both the private land portion of the survey area as well as the Gen-tie Line survey area. Peninsular bighorn sheep (*O. c. nelson*; endangered) is discussed in subsection 3.12.3.4, item B.

Southwestern Willow Flycatcher

Species Profile. Southwestern Willow Flycatcher (SWFL) is federally listed as endangered, and all willow flycatchers in California, including the southwestern and two other subspecies (*E. t. brewsteri* and *E. t. adastus*) are state-listed as endangered. Critical habitat was designated for the SWFL on October 19, 2005 in San Diego County, California and in Arizona. No critical habitat was designated within Imperial County, California.

Willow Flycatchers are in the Tyrannidae family and are one of ten species of Empidonax flycatchers in the United States. Empidonax flycatchers are difficult to distinguish visually but have distinctive songs. SWFL is generally paler than other willow flycatcher subspecies and differs in morphology. SWFLs are migrants, arriving on their breeding grounds in mid-May to early June. SWFL migrates south from its breeding range in August or September. Several subspecies of Willow Flycatcher are known to migrate through southern California, with the most common migrant being *E. t. brewsteri*. It is virtually

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impossible to differentiate between subspecies of Willow Flycatcher during migration. SWFL requires riparian habitat with willow (*Salix* spp.) thickets for breeding. Understory species include mule fat (*Baccharis* sp.) and arrow weed (*Pluchea* sp.). SWFLs also nest in areas with tamarisk (*Tamarix* spp.) and Russian olive (*Eleagnus angustifolia*) where these species have replaced the native willow. Surface water is required at nesting sites. Estimated nesting habitat patch size varies from 0.2 to 1.5 acres. Nests are constructed in densely vegetated thickets with trees between 13 and 23 feet in height.

Threats in the United States include loss of riparian habitat due to water diversion, flood control, urbanization, grazing, and invasion of non-native species. Parasitism by brownheaded cowbirds (*Molothrus ater*) has been a significant factor in the decline of this species in California, Arizona and elsewhere.

SWFL breeds in southern California, Arizona, New Mexico, southern Nevada, southern Utah, western Texas, northwestern Mexico, and possibly southwestern Colorado. It winters in Mexico, Central America, and possibly northern South America. Historically common in all the lower-elevation riparian areas of southern California, the SWFL was found in the Los Angeles Basin, San Bernardino/Riverside County area, and San Diego County.

SWFL persists in the Colorado, Owens, Kern, Mojave, Santa Ana, Santa Margarita, San Luis Rey, Santa Clara, Santa Ynez, Sweetwater, and San Dieguito river systems and in San Timeteo, Pilgrim, and Temecula Creeks.

Critical Habitat. Critical habitat was designated for the SWFL on October 19, 2005 in San Diego County, California and in Arizona. No critical habitat was designated within Imperial County, California.

Occurrence. SWFLs are not likely to nest within the survey area, but may migrate through the action area and possibly forage during migration within the arrow weed scrub and tamarisk scrub habitats along the Westside Main Canal, Mt. Signal Drain, and Greeson Wash (**Figure 3.12-2**). Flycatcher vocalizations have been heard during recent biological surveys (including protocol-level SWFL surveys) in and near the action area.

Two Willow Flycatcher subspecies are known to migrate through the Imperial Valley and in the vicinity of the Imperial Valley Energy Center (ISEC) West, ISEC South and CSE Project Areas – Southwestern Willow Flycatcher (*Empidonax trailii extimus*) and Northwestern Willow Flycatcher (*Empidonax trailii brewsteri*). These two subspecies are nearly identical in appearance, have nearly identical vocalizations, and are, thus, nearly impossible to distinguish in the field.

Willow Flycatchers were incidentally detected during the Burrowing Owl surveys conducted for CSE by Heritage Environmental Consultants (Heritage) and for ISEC West and ISEC South by Recon biologists. Heritage detected at least two Willow Flycatchers on May 21, 2009 along the Wormwood Canal in a patch of phragmites very close to the Westside Main Canal (this detection is located outside of the CSE action area). Recon detected Willow Flycatchers along the Westside Main Canal in locations south and north of the Heritage detections on June 2, 2010. The Recon detections occurred in sparse mesquite and tamarisk thickets in the ISEC West and ISEC South Project Areas. It is unknown which of the subspecies of Willow Flycatcher was detected, but the dates for these observances conform to the peak migratory period of *E. t. brewsteri*, which is known to migrate late in the season.

Recon initiated protocol-level surveys to determine the subspecies and migration status of the Willow Flycatchers detected on the ISEC West and ISEC South sites. The survey areas consisted of mesquite and

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tamarisk thickets and arrow weed thickets in proximity to surface water (Westside Main Canal) and were conducted in accordance with the project clearance survey protocol.

The Willow Flycatchers observed by Recon were located within linear thickets of mesquite, saltbush, and phragmites, and in all cases were spontaneously giving “fitz-bew” and “whitt” calls. On the subsequent survey on June 13, 2010, for ISEC West, a single bird gave repeated “whitt” calls in response to the broadcast calls of Southwestern Willow Flycatchers. It was not until the call of the northwest race of Willow Flycatcher was broadcast that the individual responded with a “fitz-bew” call. No Willow Flycatchers were detected during the final three surveys (June 23, July 7, and July 13, 2010), and none were detected during any of the protocol-level surveys for ISEC South. Based on the response to the broadcast of the northwestern race, and negative detections later in the season, it was concluded that the Willow Flycatchers detected were migrants. No resident or nesting Southwestern Willow Flycatchers were detected.

The Willow Flycatcher detections by Recon both occurred along the Westside Main Canal. One detection was located approximately 0.3 miles south of Interstate 8 (I-8; approximately 7 miles northwest of the proposed CSE Facility), and the other approximately 10.7 miles south of I-8 (approximately 0.2 miles south of the proposed CSE Facility; RECON 2010b and 2010c). The Heritage detection occurred along a section of the Wormwood Canal that runs parallel to the Westside Main Canal, approximately 9.2 miles south of the I-8 (approximately 0.75 miles northwest of the proposed CSE Facility and 1 mile northwest of the proposed Gen-tie Line).

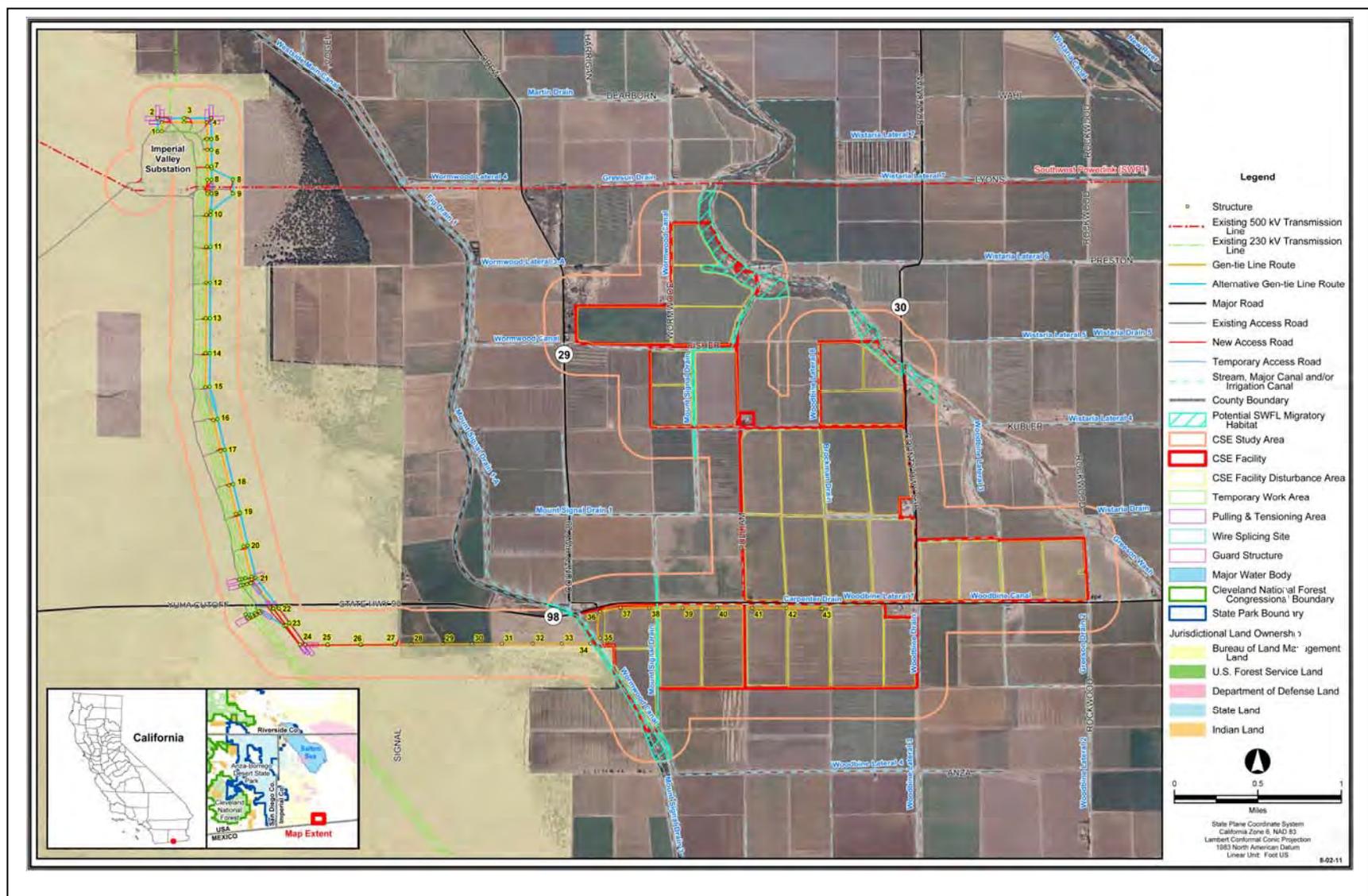
Heritage also conducted winter and spring avian point count surveys for the proposed project. One transect had point count locations located along the Wormwood Canal near the proposed Gen-tie Line crossing; another transect had point count locations along the Mount Signal Drain and Greeson Wash. No Willow Flycatchers were detected during these surveys (eight total surveys), though they were not conducted during the migration season.

Breeding Southwestern Willow Flycatchers are riparian obligates, typically nesting in relatively dense riparian vegetation where surface water is present or soil moisture is high enough to maintain the appropriate vegetation characteristics. While some of the vegetation communities within the CSE survey area include some species associated with riparian areas, and some of the canals and drains have surface water and high soil moisture, none of the areas supports vegetation that is tall or dense enough for nesting; therefore, there is no Willow Flycatcher breeding habitat in the CSE survey area. Additionally, species occurrence records from the California Natural Diversity Database do not indicate the presence of Willow Flycatchers in the vicinity of the survey area. Therefore, the available data indicate that there is no known suitable nesting habitat for Southwestern Willow Flycatchers in or around the CSE survey area and that Southwestern Willow Flycatchers would be expected to be present in the CSE survey area only as migrants in the vicinity of the Westside Main Canal, Mount Signal Drain, and Greeson Wash. Accordingly, the BLM and USFWS were contacted and agreed that protocol-level surveys for Southwestern Willow Flycatchers are not required as part of the biological resources studies conducted for the CSE Project.

These data indicate that Willow Flycatchers (*E.t. extimus*, *E.t. brewsteri* or both) migrate through the Westside Main Canal corridor and may forage in the tamarisk and arrow weed vegetation during migration; however, this analysis will assume they are the southwestern subspecies in order to provide the most conservative assessment. Potential SWFL migration habitat in the action area is shown on **(Figure 3.12-1)**.

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Source: Heritage, 2011a.

FIGURE 3.12-2
 POTENTIAL SOUTHWESTERN WILLOW FLYCATCHER MIGRATORY HABITAT

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Yuma Clapper Rail

Species Profile. The Yuma Clapper Rail (YCR) was federally listed as endangered March 11, 1967, under the Endangered Species Preservation Act of October 15, 1966, and state-listed as threatened February 22, 1978. The YCR is also protected under the Migratory Bird Treaty Act and similar State laws. Critical habitat has not been established for this species.

This bird breeds in freshwater marshes along the Colorado River from Needles, California, to the Colorado River delta and at the Salton Sea. The YCR breeds in freshwater marshes and brackish waters and nests on firm, elevated ground, often under small bushes. It typically occupies emergent marsh vegetation, such as pickleweed and cordgrass, as well as mature stands of bulrush and cattail around the Salton Sea. High water levels may force them into willow and tamarisk stands. Tamarisk is also used after breeding and in winter at some sites. Nests are built between March and late July in clumps of living emergent vegetation over shallow water. Typical home ranges exceed 17 acres, increasing after the breeding season.

Crayfish dominates the diet of YCR, though small fish, tadpoles, clams, and other aquatic invertebrates are also consumed. The seasonal availability of crayfish in different habitat locations corresponds to shifts in habitat use by YCRs.

YCRs are mostly active during daylight hours, with most intensity around dawn and dusk, with little to no activity after dark. Daily movement is lowest during the late breeding period (May-July) and highest during the late winter (January-February). Juvenile dispersal, movements by unpaired males during the breeding season and by both sexes post-breeding, and relocations in response to changing water levels are also documented. Studies to determine migratory patterns showed a difficulty in locating the YCR during winter months without telemetry. While the YCR was previously thought to be migratory, experts have determined that they are year-round residents, albeit discreet during winter months, of the lower Colorado River and Salton Sea.

Habitat destruction and depredation by mammals and raptors have caused population declines. It is also possible that increased selenium concentrations from agricultural runoff are affecting reproduction.

Critical Habitat. No critical habitat has been designated for YCR, and none is proposed.

Occurrence. This species is not likely to nest within the survey area; however there is some potential for use of the drainage features within the survey area to be used as dispersal corridors or for foraging habitat. The nearest known location for this species is within Wixom Drain near Fig Lagoon, approximately 2.7 miles north of the action area north of the Imperial Valley Substation. The New River is approximately 2.25 miles northeast of the action area may provide the nearest suitable nesting habitat for this species. There are two small patches of typha and typha/phragmites habitat in the action area: a one-acre patch occurs along the Mount Signal Drain at the southern boundary of the CSE Facility; a 0.4-acre patch occurs along the Mount Signal Drain just north of Fisher Road. These were not mapped due to the extremely small size; however, they can be seen on Vegetation Mapbook Pages C-5 and D-2 included as **Appendix J** of this EIR/EA. Both of these areas exhibit steep shelving to the water level, creating water depths deeper than those preferred by YCR. Both are also narrow and linear in nature. The sides of the channels are steep and would inhibit nesting, and vehicles travel the elevated hard-packed dirt roads on either side of the channels regularly. Given the lack of suitable breeding habitat within the channels and the high level of human disturbance adjacent to the channels, this species is not likely to nest within this cattail marsh vegetation.

There is a low potential for YCR to forage in the cattail marsh vegetation or winter in the tamarisk thickets adjacent to the Westside Main Canal, Mount Signal Drain, and Greeson Wash. The active agricultural fields immediately adjacent to the cattail marshes provide a constant source of human disturbance in the area, and these practices will continue to occur after construction is completed. Given the distance from suitable and potential nesting habitat and level of existing human disturbance due to agricultural practices, there is a very low potential for YCR to forage within the isolated cattail marsh habitats or to winter in the tamarisk vegetation within the survey area. In addition, this species was not incidentally observed during numerous biological surveys conducted in and near these habitats for the CSE Project or the ISEC West and South Projects.

State Listed Species

Four state-listed wildlife species were evaluated based on their known occurrences in Imperial County: greater Sandhill Crane (*Grus canadensis tabida*), Yuma clapper rail, barefoot banded gecko (*Coleonyx switaki*), and Peninsular bighorn sheep. Of these species, the Yuma clapper rail and Peninsular bighorn sheep are federally listed and discussed in above in subsection 3.12.2.4, item B and in subsection 3.12.3.4, item B. The greater Sandhill Crane and barefoot banded gecko species are discussed below.

Greater Sandhill Crane (*Grus canadensis tabida*)

Species. The Greater Sandhill Crane is state-listed as threatened and is protected under the federal MBTA and similar State legal protections. This species is known to winter in Imperial County California.

Habitat. Both Greater (*Grus canadensis tabida*) and Lesser (*G. c. canadensis*) Sandhill Cranes occur in California. Historically, *G. c. tabida* was a fairly common breeder on the northeastern plateau. It is now reduced greatly in numbers, and breeds only in Siskiyou, Modoc, Lassen, Sierra Valley, Plumas and Sierra counties. In summer, this subspecies occurs in and near wet meadows as well as shallow lacustrine, and freshwater emergent wetland habitats. It winters primarily in the Sacramento and San Joaquin valleys from Tehama County south to Kings County, where it frequents annual and perennial grassland habitats, moist croplands with rice or corn stubble, and open, emergent wetlands. It prefers relatively treeless plains. The migratory subspecies *G. c. canadensis* winters in similar habitats in the San Joaquin and Imperial valleys, and to a lesser extent in the Sacramento Valley. In southern California, it concentrates on the Carrizo Plain, San Luis Obispo County, with smaller flocks near Brawley, Imperial County, and Blythe, Riverside County. The latter two flocks may be partly, or largely, *G. c. tabida*, which formerly wintered more commonly in southern California, but which has declined greatly there and throughout its range. Outside of known wintering grounds, *G. c. tabida* is extremely rare except that it migrates over much of interior California. A few coastal sightings of Greater Sandhill Crane exist from Marin County southward, but there are no records from offshore islands. When foraging, the Greater Sandhill Crane prefers open shortgrass plains, grain fields, and open wetlands, but it may also feed on dry plains far from water. The Greater Sandhill crane feeds on grasses, forbs, especially cereal crops (newly planted or harvested); and also uses its long bill to probe in soil for roots, tubers, seeds, grains, earthworms, and insects. It will also feed on larger prey, such as mice, small birds, snakes, frogs, and crayfish.

Occurrence. The greater sandhill crane is likely to forage within the agricultural fields within the private lands portion of the survey area at times during winter, but this species is not expected to breed in the survey area.

Barefoot Banded Gecko (*Coleonyx switaki*)

Species. The barefoot banded gecko is state-listed as threatened. Its known range occurs along the eastern face of the Peninsular Ranges in San Diego and Imperial Counties, and little information is known about its extended range or abundance.

Habitat. Habitat for the barefoot banded gecko is found in arid rocky areas on flatlands, canyons, and thornscrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse. In California, this species inhabits the arid desert slopes of the eastern side of the Peninsular Ranges from Borrego Springs south to the Baja California border, and may occur at elevations from near sea level to over 2,000 ft. (700 m). An isolated population is known to occur in the Coyote Mountains of Imperial County. It ranges farther south in Baja California along the eastern edge of the mountains to near Santa Rosalia.

The barefoot banded gecko is insectivorous. Most likely, the breeding season lasts from spring to summer, May to July. Females lay one or two eggs, roughly 3 weeks after mating, and may lay eggs several times each season. Eggs hatch after around 2 months, in late summer to early fall.

Occurrence. No barefoot banded geckos are expected to occur within the private lands portion of the survey area based on a lack of suitable habitat in the form of large boulders and rocky outcrops.

BLM Sensitive Wildlife

Six BLM sensitive wildlife species were evaluated based on their presence on the BLM sensitive list within the El Centro Field Office's jurisdiction: Colorado Desert fringe-toed lizard (*Uma notata notata*), flat-tailed horned lizard, barefoot banded gecko, Western Burrowing Owl, California leaf-nosed bat (*Macrotus californicus*), and pallid bat (*Antrozous pallidus*). The barefoot banded gecko is also a state-listed species and is discussed above in subsection 3.12.4, item B.

The following BLM sensitive species are discussed in this section because their habitat requirements and/or potential for occurrence are most pertinent to the private land portion of the survey area, though the following discussions evaluate the potential for occurrence in both the private land portion of the survey area as well as the Gen-tie Line survey area. Colorado desert fringe-toed lizard and flat-tailed horned lizard are discussed in subsection 3.12.3.4, item B.

Burrowing Owl (*Athene cunicularia*)

Species. The Burrowing Owl is a California Species of Special Concern and a BLM sensitive species. It is protected by the MBTA and California Fish & Game Code §§ 3503, 3503.5, 3513. Nesting occurs from March through August. Burrowing Owls typically form a pair-bond for more than 1 year and exhibit high site fidelity, reusing the same burrow year after year. The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. Burrowing Owls are opportunistic feeders, consuming a diet that includes arthropods, small mammals, and birds, and occasionally amphibians and reptiles. Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of this species include the poisoning of squirrels and prairie dogs, and collisions with automobiles. A survey effort carried out between 1991 and 1993 indicated that major population densities remain in the Central and Imperial valleys, where this species is a year-round resident in Imperial County.

Habitat. The Burrowing Owl is primarily restricted to the western United States and Mexico. Habitat for the Burrowing Owl includes dry, open, short-grass areas often associated with burrowing mammals. In

Imperial County it can be found in desert scrub, grassland, and agricultural areas, where it digs its own or occupies existing burrows.

Occurrence. During focused burrowing owl surveys several active Burrowing Owl burrows were observed within the survey area, primarily associated with berms and ditches lining the active agricultural fields. The 2010 focused burrowing owl survey covered only a portion of the proposed Project Area and associated buffers. The 2011 focused Burrowing Owl surveys were designed to cover the additional portions of the CSE Facility Project Area and associated buffers as well as the Gen-tie line, as currently proposed. These surveys have been completed and identified 51 active burrows within the survey area.

California Leaf-nosed Bat (*Macrotus californicus*)

Species. The California leaf-nosed bat is a Species of Special Concern and a BLM sensitive species. This bat is found primarily in desert areas of the southwestern United States, and ranges through Imperial County and the eastern parts of Riverside and San Diego Counties in California.

Habitat. The California leaf-nosed bat is commonly found in desert habitats that include riparian, wash, scrub, succulent scrub, alkali scrub, and palm oasis. The species is non-migratory and active year-round, requiring rocky, rugged terrain, caves, or mine shafts for roosting. These gregarious bats have been observed in groups of up to 500, with both sexes roosting together during the non-breeding season and separately during spring and summer. It forages over flats and washes within one mile of its roost, and is a "gleaning" insectivore which captures prey such as crickets, grasshoppers, beetles, and sphinx moths straight from the ground or foliage rather than in flight. It typically hunts within a few feet of the ground using its superior eyesight to search for insects. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration.

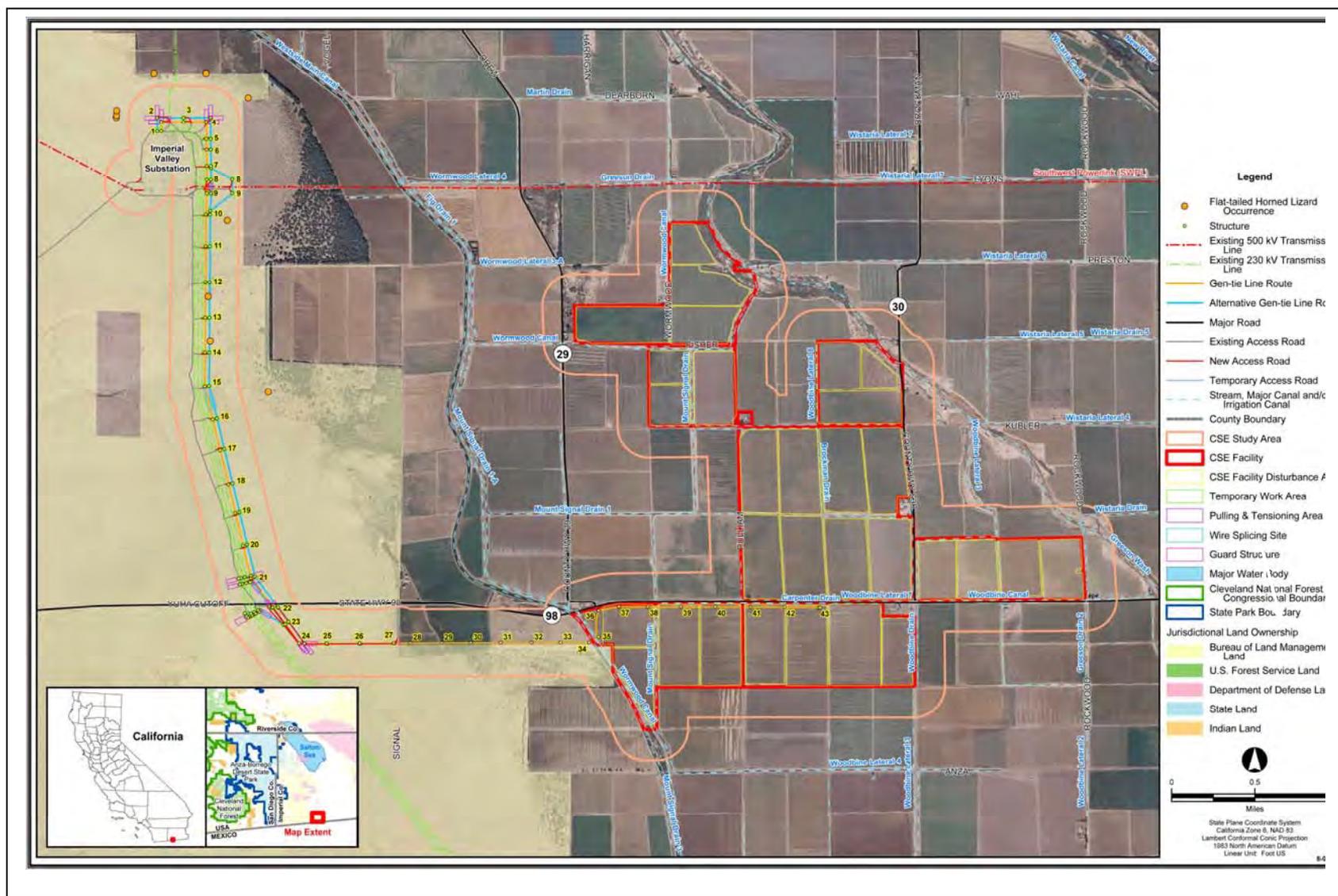
Occurrence. The desert washes, thickets, agricultural fields and irrigation channels within the survey area offer foraging opportunities for this species. The nearest reported location for the California leaf-nosed bat is approximately 25 miles northwest of the proposed project. No known roosts occur in the survey area, and there is no suitable roosting habitat within or near the survey area. **Figure 3.12-3** shows the location of active burrows in and around the Project Area.

Pallid Bat (*Antrozous pallidus*)

Species. The Pallid bat is a Species of Special Concern and a BLM sensitive species. It is a locally common yearlong resident of low elevations throughout most of California.

Habitat. This bat occupies a variety of habitats including grasslands, shrublands, woodlands, and forests at elevations ranging from sea level up through mixed conifer forests. The species occurs most commonly in open, dry habitats and prefers rocky areas for roosting. Pallid bats are social, commonly roosting in multi-species groups of 20 or more. The day roosts, such as caves, crevices, and mines, must protect the bats from high temperatures. The bats forage low over open ground, and consume large, hard-shelled prey items such as beetles, grasshoppers, cicadas, spiders, scorpions, and Jerusalem crickets. Pallid bats are very sensitive to disturbance at the roosting sites as these roosts are crucial for metabolic economy and juvenile development. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration.

3.12 BIOLOGICAL RESOURCES



Source: Heritage, 2011a.

FIGURE 3.12-3
FLAT-TAILED HORNED LIZARD OCCURRENCES

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Occurrence. The entire survey area offers foraging opportunities for this species. The nearest reported location for the pallid bat is approximately 26 miles west of the proposed project. Roosts are not known to occur in the survey area, and there is no suitable roosting habitat within or near the survey area.

Mountain Plover (*Charadrius montanus*)

Species. The Mountain Plover (family Charadriidae) is a small terrestrial shorebird, which averages 8 inches in length. Mountain Plovers are light brown above and white below, and are distinguished from other plovers by the lack of a contrasting dark breast band.

On June 29, 2010, USFWS announced the proposed listing of the Mountain Plover as threatened under the ESA of 1973, as amended. However during the course of review of this right-of-way application, the proposed rule to list the Mountain Plover as a threatened species was withdrawn by Federal Register dated May 12, 2011, Therefore, ESA Section 7 consultation is no longer required. This species is a BLM sensitive species.

Habitat. Mountain Plovers are migratory, wintering in California, among other places, from April through June. The Sacramento, San Joaquin, and Imperial valleys of California are thought to support the greatest number of wintering Mountain Plovers. Throughout their range, Mountain Plovers are found within sparsely vegetated areas such as xeric shrublands, shortgrass prairie, and barren agricultural fields, but rarely near water. They are a diurnal species, foraging during daylight hours for ants, beetles, crickets, and grasshoppers with a series of short runs and stops.

Mountain Plovers use wintering habitats that are similar to those they use on breeding grounds: heavily grazed pastures, burned fields, fallow fields, and tilled fields. In California's Imperial Valley, they preferentially use alfalfa fields that have been harvested and grazed by domestic sheep, as well as Bermuda grass fields that have been burned postharvest.

Occurrence. Heritage biologists conducted presence/absence surveys from February 9 through February 23, 2011 in accordance with the USFWS Interim Survey Guidance for Wintering Mountain Plover (*Charadrius montanus*) in the Imperial Valley. Approximately 1,860 acres of agricultural fields were surveyed within the CSE Facility (**Figure 3.12-4**). No Mountain Plovers were detected within the CSE survey area and none were detected during surveys at the nearby ISEC South project.

California Species of Special Concern and Fully Protected Species

Four species that are classified as CDFG Species of Special Concern were observed within the survey area or were observed during surveys for nearby projects: Loggerhead Shrike, Crissal Thrasher (*Toxostoma crissale*), Least Bittern (*Ixobrychus exilis*) and LeConte's Thrasher (*T. lecontei lecontei*). Golden Eagle (*Aquila chrysaetos*), a CDFG Fully Protected Species, and protected under the Bald and Golden Eagle Protection Action, MBTA, and Fish & Game Code sections 3503, 3503.5, and 3513, was also observed within the Project Area. The following discussions evaluate the potential for occurrence of California Species of Special Concern and Fully Protected Species in both the private land portion of the survey area as well as the Gen-tie survey area.

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3.12 BIOLOGICAL RESOURCES

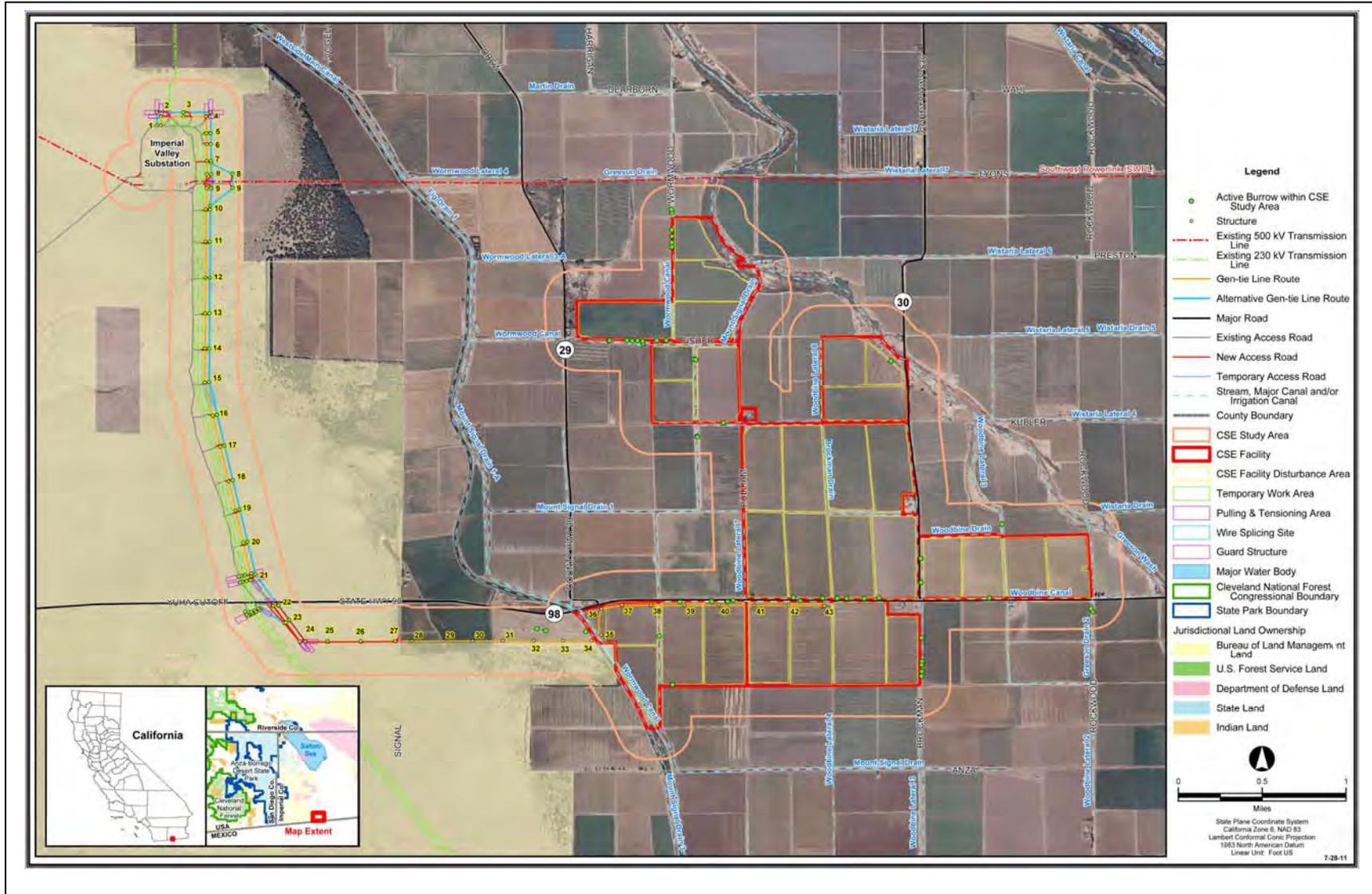


FIGURE 3.12-4
 BURROWING OWL OCCURRENCES

Source: Heritage, 2011a.

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Loggerhead Shrike (*Lanius ludovicianus*)

Species. The Loggerhead Shrike is a CDFG Species of Special Concern and is a year-round resident in Imperial County.

Habitat. The Loggerhead Shrike inhabits most of the continental United States and Mexico and is a year-round resident of southern California. The Loggerhead Shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting. In southern California, Loggerhead Shrikes inhabit grasslands, agricultural fields, chaparral, and desert scrub. Their breeding season is from March to August. Loggerhead Shrikes are highly territorial and usually live in pairs in permanent territories. Loggerhead Shrikes feed on small reptiles, mammals, amphibians, and insects that they often impale on sticks or thorns before eating. Loggerhead Shrike populations are declining, likely due to urbanization and loss of habitat and, to a lesser degree, pesticide use.

Occurrence. Loggerhead Shrikes were observed regularly within the private land portions of the survey area. Six Loggerhead Shrike observations were recorded at three locations during the winter avian use surveys **Figure 3.12-5**. The agricultural habitats associated with the Project Area provide suitable foraging habitat for this species. No Loggerhead Shrike nests were identified, though the species may nest in mesquite or tamarisk habitats adjacent to the private land portions of the survey area.

Crissal Thrasher (*Toxostoma crissale*)

Species. The Crissal Thrasher is a CDFG Species of Special Concern and is a year-round resident in Imperial County.

Habitat. A resident of southeastern California deserts, it is still fairly common in Colorado River Valley but local and uncommon elsewhere. This species occupies dense thickets of shrubs or low trees in desert riparian and desert wash habitats. In eastern Mojave Desert of San Bernardino and southeastern Inyo counties, it also occurs in dense sagebrush and other shrubs in washes within juniper and pinyon–juniper habitats, up to 1,800 meters (5,900 feet). It is also a resident in the Imperial, Coachella, and Borrego valleys, but numbers have declined markedly in recent decades.

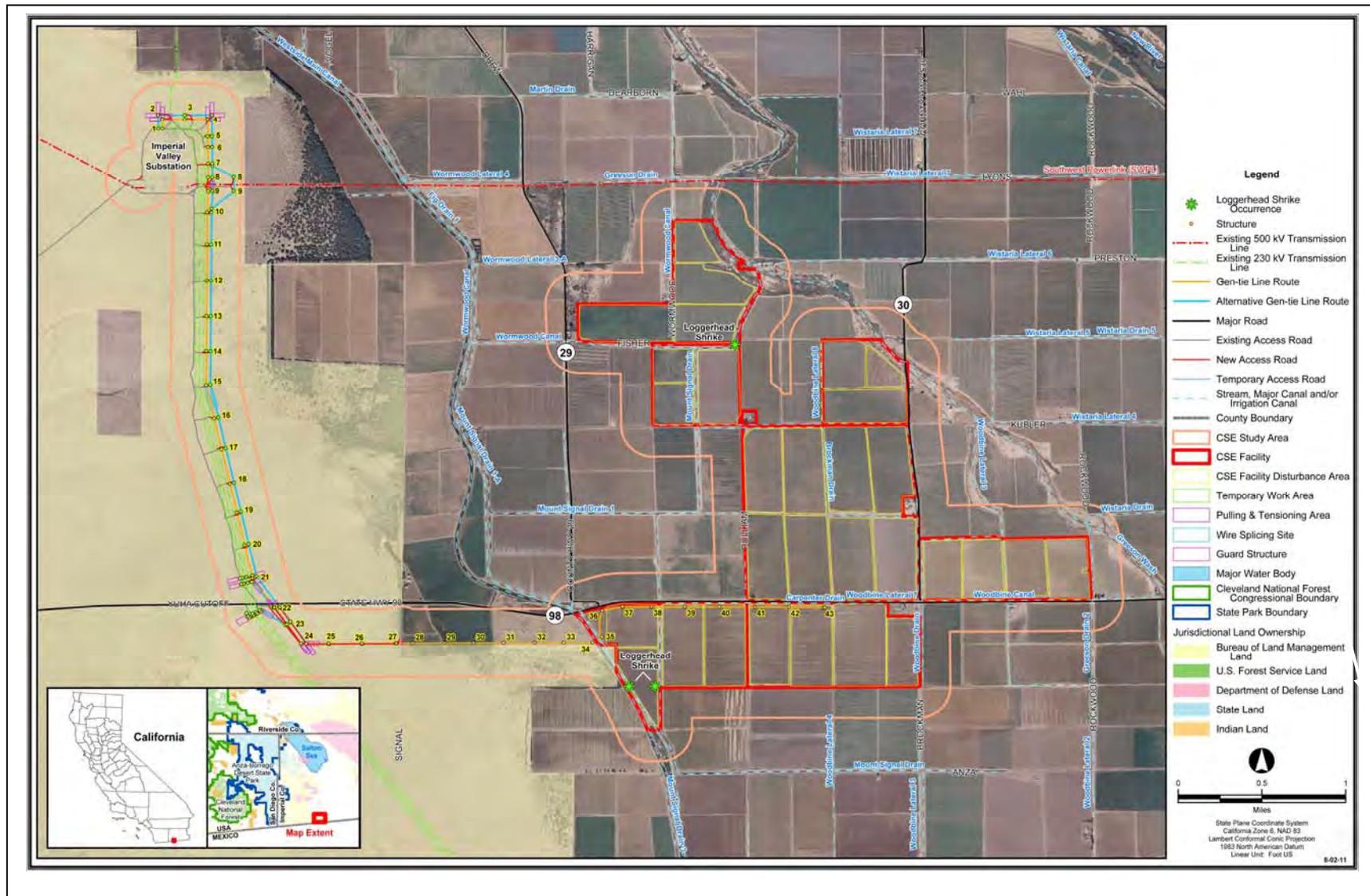
This species forages mostly on the ground, especially between and under shrubs. It uses its bill to dig in friable soil and to probe in litter. Its diet is poorly known, but includes insects, other invertebrates, berries, and other small fruits, seeds, and occasionally small lizards. Breeding season for the crissal thrasher lasts from February into June with a peak in March and April.

The Crissal Thrasher's numbers have been reduced greatly by removal of mesquite brushland for agricultural development and by introduction of tamarisk. Off-road vehicle activity also may also degrade habitat and disturb thrashers.

Occurrence. This species has been observed within mesquite thickets associated with nearby projects. The active agricultural areas within the private land portions of the survey area do not support suitable nesting or foraging habitat for this species due to the lack of suitable vegetation and the lack of loose, friable soils for foraging. Portions of Greeson Wash may represent suitable habitat for this species. Crissal Thrashers were not observed within the survey area during avian use survey or incidental to other survey efforts.

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3.12 BIOLOGICAL RESOURCES



Source: Heritage, 2011a.

FIGURE 3.12-5
 LOGGERHEAD SHRIKE OCCURRENCES

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Le Conte's Thrasher (*Toxostoma lecontei lecontei*)

Species. The Le Conte's Thrasher is a CDFG Species of Special Concern and a year-round resident in Imperial County.

Habitat. Le Conte's Thrasher is an uncommon to rare, local resident in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley. It occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. Le Conte's Thrasher may also occur in Joshua tree woodlands with scattered shrubs.

This species feeds on a variety of insects and other terrestrial arthropods; occasionally on seeds, small lizards, and other small vertebrates. It primarily forages on ground by probing and digging in soil and litter with bill. The Le Conte's Thrasher is a year-round, non-migratory species that breeds from late January into early June, with a peak from mid-March to mid-April.

Occurrence. This species was observed within desert wash vegetation associated with a nearby project. The active agricultural areas within the private land portions of the survey area do not support suitable nesting or foraging habitat for this species due to the lack of suitable vegetation and the lack of loose, friable soils for foraging. Portions of Greeson Wash may represent suitable habitat for this species. Le Conte's Thrashers were not observed within the survey during avian use survey or incidental to other survey efforts.

Golden Eagle (*Aquila chrysaetos*)

Species. This eagle occurs throughout the United States and is a rare resident in San Diego County and Imperial Counties.

Habitat. Golden Eagles nest on cliffs of all heights and in large trees in open areas, and use rugged, open habitats with canyons and escarpments used most frequently for nesting. Alternative nest sites are maintained, and old nests are reused. Golden Eagles build large platform nests, often 3 meters (10 feet) across and 1 meter (3 feet) high, of sticks, twigs, and greenery.

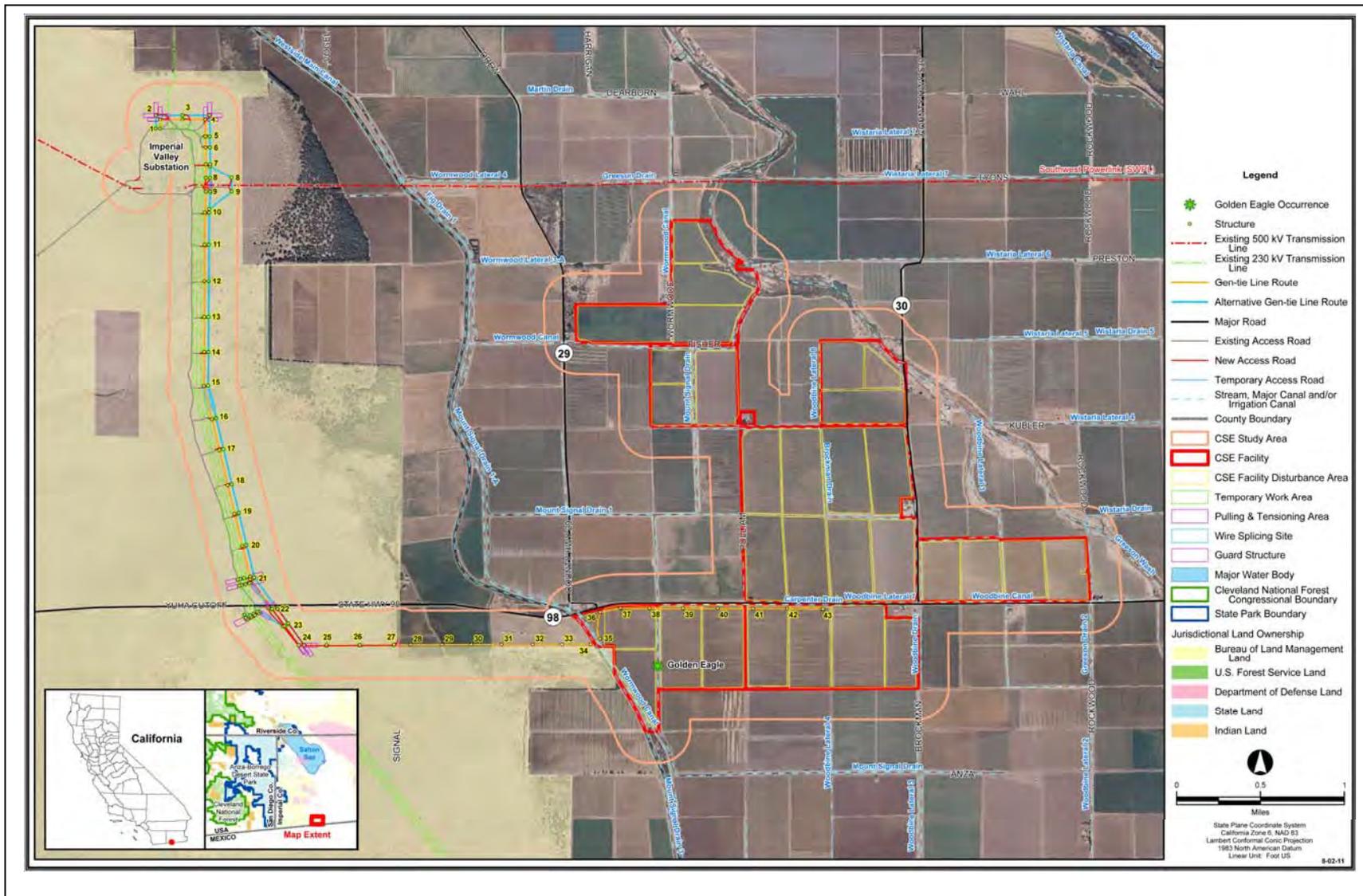
This species forages over large areas of grassland, desert, and open chaparral or sage scrub where they primarily prey upon rabbits, ground squirrels and prairie dogs. Golden Eagles forage close to and far from their nests, i.e. < 6 kilometers from the center of their territories, but have been observed to move 9 kilometers from the center of their territories in favorable habitat. These distances may be greater in xeric habitats.

Occurrence. A Golden Eagle was incidentally observed foraging over the Mount Signal Drain and adjacent agricultural fields within the survey area during the winter avian use surveys **Figure 3.12-6**. No previous records of this species were identified within the project vicinity. No suitable nesting habitat is present within the survey area; or immediate vicinity. Therefore, golden eagles are not expected to nest within the survey area.

The nearest known Golden Eagle population is approximately 10 miles northwest of the survey area, in the Coyote Mountains. The In-Ko-Pah and Jacumba mountains, approximately 10 miles west of the proposed project, also provide suitable habitat for this species. Due to the distance from known territories, golden eagles associated with these populations are not expected to forage within or adjacent to the survey area. El Centinela, approximately 2.25 miles southwest of the Project Area, across the U.S.-Mexico border, may support suitable nesting habitat, although data for this area were not

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3.12 BIOLOGICAL RESOURCES



Source: Heritage, 2011.

FIGURE 3.12-6
GOLDEN EAGLE OCCURRENCES

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identified during the literature search. Individuals nesting in or around Mt. Signal could potentially use the survey area and surrounding vicinity for foraging activities, though it is likely a rare occurrence.

C. Sensitive Natural Communities

Sensitive vegetation communities include desert vegetation communities or riparian habitats that are considered rare or sensitive based on the level of disturbance or habitat conversion within their range. Creosote bush – white bursage scrub is a desert scrub community present in the Project Area and are considered sensitive by CDFG. Vegetation communities associated with wetland or riparian habitats such as desert wash associated with Greeson wash and the small amount of mesquite woodland are also present in the Project Area and are considered sensitive by CDFG.

D. Jurisdictional Waters

ACOE Jurisdictional Waters

The ACOE is responsible to implement the goal of the CWA to protect the values of Waters of the U.S. ACOE jurisdiction can be established through assessment of hydrologic features (e.g., ditches, canals) that transport relatively permanent flow directly or indirectly into Traditional Navigable Water¹ (TNW). Also jurisdiction can be asserted where certain ephemeral waters in the arid west are distinguishable from the geographic features described above where such ephemeral waters (desert washes) are tributaries or may have a significant nexus to TNWs.

The project site is located within the Salton Sea watershed, USGS 8-digit Hydrologic Cataloging Unit (HUC) 18100200. The Salton Sea is a terminal water body that receives water from the New, Alamo, and Whitewater rivers, along with precipitation, and groundwater. The only outflow from the Sea is through evaporation and seepage. The Salton Sea is supported primarily by agricultural return flows.

The ACOE classifies New River as a TNW. The New River originates in the Mexicali Valley of northern Mexico and terminates into the Salton Sea. Irrigation water utilized on farm fields in Imperial Valley is supplied from the Colorado River (TNW) by an engineered system of concrete-lined, unlined or water supply canals operated and maintained by the Imperial Irrigation District (IID). The concrete-lined conveyance canals and lateral canals that deliver water may contain water at all times except during periods of maintenance. The ACOE classifies these canals as Relatively Permanent Waters (RPW). Excess irrigation water and stormwater are drained from the fields by a series of concrete or earthen ditches that drain to the New River, eventually flowing from south to north terminating in the Salton Sea. Through hydrologic connectivity or by meeting other regulatory requirements, the ACOE considers some drainage systems jurisdictional.

The private land area of the project site consists of active agricultural lands that receive and drain IID water through gravity-flow systems. These waters form a cascading water management system that functions as one contiguous system connected by a series of upland-cut ditches, eventually draining into secondary or first order tributaries including a partially channelized natural wash.

The BLM land portion of the project involves the Gen-tie crossing desert landscapes. Desert washes and drainages cross the landscape. The Ordinary High Water (OHW) zone in low-gradient, alluvial

¹ Pursuant to Clean Water Act section 404 (33 USC 1344), the ACOE exercises jurisdiction over “navigable waters,” further defined as “waters of the United States.” Therefore, a threshold ACOE issue involves whether a water feature is a “jurisdictional water of the United States.” This section analyzes Project effects on biological resources associated with water features, whether jurisdictional or not. Regardless of biological effect, however, the Applicant must secure ACOE authorization before discharging material into any section 404 jurisdictional features.

ephemeral/ intermittent channel forms in the arid west is defined as the active floodplain and is the only reliable and repeatable feature used in terms of OHW delineation. This is used as an indicator by both State and ACOE for establishing jurisdiction.

CSE prepared and submitted a wetland delineation request for review by the ACOE. The jurisdictional delineation indicates there are a maximum of 85 hydrologic features, 20 of which may be considered potential wetland, riparian and/or waters of United States within the boundaries of both the private and BLM lands.

The estimated impacts to ACOE jurisdictional waters on private lands are not expected to exceed 0.06 acre of fill within manmade drainage systems and 0.01 acre of impacts to jurisdictional habitat on BLM managed lands (refer to Table 4.12-2 in Section 4.12). The final determination of impacts to ACOE jurisdictional waters is subject to a verification of the jurisdictional delineation and a formal jurisdictional determination by the ACOE.

CDFG Jurisdictional Waters

CDFG generally takes jurisdiction of all stream features including drains and canals. The CDFG jurisdiction extends from the top of bank to the opposite top of bank on these features or the limits of riparian vegetation if this vegetation extends beyond the top of the banks. Under Section 1600 of the CDFG Code, CDFG jurisdiction includes "...bed, channel or bank of any river, stream or lake designated by the department in which there is any time an existing fish or wildlife resource or from which these resources derive benefit. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation or stream dependent terrestrial benefit".

CSE has prepared a CDFG Streambed Alteration Agreement application and wetland delineation request. The proposed project related impacts (refer to Table 4.12-3 for a summary of CDFG jurisdictional areas on the CSE Facility [private lands] in Section 4.12) are not expected to exceed 6.14 acres. For construction related to the Gen-tie Line, a maximum of 0.09 acre of permanent impacts are estimated within CDFG jurisdiction and temporary impacts are estimated to be no more than 0.40 acre.

E. Habitat Connectivity and Wildlife Corridors

Wildlife movement corridors and habitat linkages are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Corridors are generally local pathways connecting short distances usually covering one or two main types of vegetation communities. Linkages are landscape level connections between very large core areas and generally span several thousand feet and cover multiple habitat types. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors and linkages for wildlife travel. The habitat connectivity provided by corridors and linkages is important in providing access to mates, food, and water, allowing the dispersal of individuals away from high density areas, and facilitating the exchange of genetic traits between populations.

Both avian and terrestrial wildlife species are able to move freely throughout the survey area and are not restricted to a specific corridor or linkage, however Greeson Wash and other drainage features are very important wildlife corridors through arid or agricultural habitat.

3.12.3 AFFECTED ENVIRONMENT (GEN-TIE LINE - BLM LAND)

The following sections describe the existing conditions on lands associated with that portion of the Gen-tie Line and associated buffer areas located on lands managed by the BLM. As previously mentioned, the total survey area includes the project site plus a buffer area that collectively totals 5,418 acres. The following sections describe the existing conditions of the portion of the survey area located on lands managed by the BLM. This area, referred to as the “Gen-tie survey area”, totals 1,205 acres. The survey area on private lands totals 4,213 acres and was discussed in subsection 3.12.2.

3.12.3.1 SOILS AND TOPOGRAPHY

The survey area is located in the Yuha Basin of the Colorado Desert between agricultural lands to the north, south, and east and native desert to the west. Alluvial fans and small washes traverse through the Gen-tie corridor at various locations, flowing northeast from Mount Signal toward the Westside Main Canal. Most of these drainage features are interrupted by agricultural fields before they reach the Canal (i.e., they are isolated). The uplands between the washes are relatively flat, with sparse vegetation and sand that ranges from soft and rolling to flat and compact. Elevation of the survey area ranges from sea level to 60 feet above mean sea level.

A discussion of soils in the survey area can be found in subsection 3.12.2.1.

3.12.3.2 GENERAL VEGETATION

The following sections describe existing vegetation in the Gen-tie survey area. Please refer to subsection 3.12.2.2 for more information concerning vegetation in the private land survey area as well as information pertaining to both survey areas. Communities that are similar in composition were lumped together in the discussion following **Table 3.12-3**. Desert pavement and non-vegetated sandy wash are not discussed because there is very little habitat and they will not be impacted.

**TABLE 3.12-3
VEGETATION COMMUNITIES/LAND COVER TYPES
WITHIN THE CSE GEN-TIE LINE (BLM-ADMINISTERED LANDS) SURVEY AREA**

Vegetation Community	Acres
Creosote Bush – White Bursage Scrub (CBS)	875.9
Creosote Bush – White Bursage Scrub – Disturbed (CBS-D)	72.3
Creosote Bush – White Bursage Scrub/Alkali Deposit	2.5
Desert Pavement (DP)	15.1
Encelia – White Bursage Wash Scrub (EWBS)	52.1
Ephedra – Encelia Wash Scrub (EEWS)	8.8
Mesquite – Catclaw Scrub (MCCS)	2.0
Mesquite Bosque (MB)	5.8
Non-vegetated Sandy Wash (NVSW)	2.5
Smoke Tree Wash Scrub (STWS)	77.5
White Bursage Scrub – Disturbed (WBS-D)	21.2
Developed/Disturbed Habitat (DEV/DH)	69.7
Total (BLM-administered Lands)	1,205.3

Source: Heritage, 2011a and 2011b.

A. Creosote Bush-White Bursage Scrub (CBS, CBS-D, and CBS/AD)

Creosote bush–white bursage scrub (including the disturbed component) is the dominant vegetation community within the Gen-tie Line corridor in the survey area and accounts for 950.7 acres (approximately 79 percent of the Gen-tie survey area). This community is dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) with relatively sparse vegetative cover and flat topography. Four-wing saltbush (*Atriplex canescens*) and many fruit saltbush (*Atriplex polycarpa*) are present as sporadic minor associates. Small subshrubs present include: California croton (*Croton californicus*), plicate coldenia (*Tiquilia plicata*) and three-fork ephedra (*Ephedra trifurca*). A number of herbaceous perennial and annual species that offered a sparse herbaceous layer between shrubs were observed during the spring surveys. These species include desert sunflower (*Geraea canescens*), smooth-ray desert marigold (*Baileya pauciradiata*), desert sand verbena (*Abronia villosavar* var. *villosa*), Spanish needles (*Palafoxia arida* var. *arida*), desert dandelion (*Malacothrix glabrata*), frost mat (*Achyronychia cooperi*), desert lily (*Hesperocallis undulata*), basket evening primrose (*Oenothera deltoides*), sun cup (*Camissonia brevipes*), pincushion flower (*Chaenactis stevioides*), desert cambess (*Oligomeris linifolia*), narrow-leaved forget-me-not (*Crypthantha angustifolia*), and Mediterranean grass (*Schismus barbata*).

B. Developed/Disturbed Habitat (DEV/DH)

Approximately 69.7 acres of developed/disturbed land occur within the survey area (approximately 6 percent of the Gen-tie survey area). These areas contain little to no vegetation. Disturbed areas include areas adjacent to the Imperial Valley Substation, and SR 98. These areas are usually kept bare of vegetation by constant vehicle traffic but may support non-native weed species. Developed areas consist of lands that lack vegetation and include the Imperial Valley Substation, and other transmission infrastructure.

C. Encelia-White Bursage Wash Scrub and Ephedra-Encelia Wash Scrub (EWBS and EEWS)

Areas within the main wash along the Gen-tie corridor south of the IV substation where rayless encelia (*Encelia frutescens* ssp. *frutescens*) and white bursage co-dominate are classified as encelia-white bursage wash scrub. Desert sunflower, smooth-ray desert marigold, desert sand verbena, Spanish needles, narrow-leaved forget-me-not, Sahara mustard, and Mediterranean grass are the common understory species within this community.

Approximately 60.9 acres (approximately 5 percent of the Gen-tie survey area) of encelia–white bursage scrub and ephedra – encelia wash scrub are present.

D. Smoke Tree Wash Scrub (STWS)

Several ephemeral desert washes occur along the Gen-tie corridor. Slight variations in topography result in changes in the vegetation along these washes, which results in a mosaic pattern of communities, especially along the Pinto Wash about one-quarter mile south of the Imperial Valley substation. Smoke tree (*Psoralea spinosa*) is the dominant species of the habitat along with creosote bush, indigo bush (*Psoralea schottii*), three-fork ephedra, white bursage and plicate coldenia. Understory consisted of the typical desert floor understory species observed elsewhere (e.g., desert sunflower, smooth-ray desert, desert sand verbena, Spanish needles, narrow-leaved forget-me-not, Sahara mustard, and Mediterranean grass). Thurber's pilostyles (*Pilostyles thurberi*), a CNPS List 4 species, is

parasitic on some of the smoke trees in this habitat. Approximately 77.5 acres (approximately 6 percent of the Gen-tie survey area) of smoke tree wash scrub is present.

E. White Bursage Scrub – Disturbed (WBS-D)

Disturbed white bursage scrub refers to areas of desert scrub habitat that have been disturbed primarily due to OHV activity. In these areas, vegetation cover is very sparse with white bursage the sole dominant. California croton, Spanish needles and desert sand verbena are also present but in small numbers. Because of the disturbances, Sahara mustard and Mediterranean grass are also present. This community occurs along the Gen-tie corridor just north of SR 98 and comprises 21.2 acres (approximately 2 percent of the Gen-tie survey area).

F. Mesquite-Catclaw Scrub, Mesquite Bosque and Mesquite Woodland (MCCS, MB and MW)

A small mesquite thicket, dominated by honey mesquite (*Prosopis glandulosa* var. *torreyana*) is present along the eastern edge of the Gen-tie Line corridor in the large wash south of the IV Substation. It is an open community and thus allows for the co-occurrence of several species. Catclaw (*Acacia greggii*) and ironwood (*Olneya tesota*) are minor associates in the wash. Three-fork ephedra, four-wing saltbush, many fruit saltbush, smoke tree and creosote bush are also minor shrub components. Some of the mesquite individuals are parasitized by mistletoe (*Phorodendron californicum*). The desert floor herbaceous component throughout most of the communities in the Gen-tie survey area is present here as well (e.g. Desert sunflower, smoothray desert, desert sand verbena, Spanish needles, narrow-leaved forget-me-not, Sahara mustard, and Mediterranean grass). The diversity of understory species was highest in the mesquite along this wash most likely as the result of additional water associated with the wash. Approximately 7.8 acres (<1 percent of the private land survey area) of mesquite - catclaw scrub, mesquite bosque, and mesquite woodland is present.

3.12.3.3 GENERAL WILDLIFE

The wildlife species observed in the Gen-tie survey area were typical of common Colorado Desert habitats, which provide cover, foraging, and breeding habitat for a variety of wildlife species. A list of all wildlife species observed is provided in the attached CD of Technical Appendices as **Appendix J** of this EIR/EA.

A. Invertebrates

The Gen-tie survey area contains suitable habitat for a wide variety of invertebrates. Within the agricultural fields and along desert habitat portions of the Gen-tie line, harvester ants (*Pogonomyrmex* spp.), grasshoppers (*Orthoptera* spp.) and flies (*Diptera* spp.) were observed regularly.

Colorado Desert habitats are rich in insect diversity with estimates of over 1,000 species recorded in some regions. Beetles species (*Coleoptera*), flies (*Diptera*), true bugs (*Hemiptera*), wasp, bee and ant species (*Hymenoptera*) represent the dominant species.

Cabbage white (*Pieris rapae*) and other butterflies and moths (*Lepidoptera* spp.) were also regularly observed in all portions of the survey area.

B. Amphibians

Most amphibians require moisture for at least a portion of their life cycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

No amphibians were observed within the Gen-tie line survey area.

C. Reptiles

The diversity and abundance of reptile species varies with habitat type. Many reptiles are restricted to certain plant communities and soil types, although some of these species would also forage in adjacent communities. Other species are more ubiquitous, using a variety of vegetation types for foraging and shelter.

Four reptile species were commonly observed throughout the Gen-tie survey area: desert iguana (*Dipsosaurus dorsalis*), common zebra-tailed lizard (*Callisaurus draconoides*), Great Basin tiger whiptail (*Aspidoscelis tigris tigris*) and sidewinder rattlesnake (*Crotalus cerastes*), Flat-tailed horned lizard individuals and sign (FTHL; *Phrynosoma mcallii*) were also observed.

D. Birds

The diversity of bird species varies with respect to the character, quality, and diversity of vegetation communities. Due to the homogeneity of much of the habitat within the Gen-tie survey area, bird diversity was relatively low.

During winter avian use surveys, Horned Larks (*Eremophila alpestris*) were the most frequently detected (15 detections, 0.47 detections per point) and the most widespread species (11 points, 34.0 percent). Mourning doves were the most numerous species (96 individuals, 34.8 percent of all individuals observed). Other species commonly observed in the Gen-tie survey area included Yellow-rumped warbler (*Dendroica coronata*), Bluegray Gnatcatcher (*Polioptila caerulea*), Black-tailed Gnatcatcher (*Polioptila melanura*), White-crowned Sparrow (*Zonotrichia leucophrys*), Rufus-crowned Sparrow (*Aimophila ruficeps*), Black Phoebe (*Sayornis nigricans*), and Turkey Vulture (*Cathartes aura*). The relative abundance of birds observed within the Gen-tie survey area was generally much lower than the abundance observed in the private land portion of the survey area (2.5 detections per point in the Gen-tie survey area compared to 6.33 in the private land survey area).

During spring surveys, Blue-gray Gnatcatchers (*Polioptila caerulea*) were the most frequently detected (23 detections, 0.69 detections per point) and the most widespread species (16 points, 48.48 percent). Rock Pigeons (*Columba livia*) were the most numerous species (31 individuals, 12.2 percent of all individuals observed). As with the winter surveys, the relative abundance of birds observed within the Gen-tie survey area was generally much lower than the abundance observed in the private land portion of the survey area (3.94 detections per point in the Gen-tie survey area compared to 9.59 in the private land survey area).

Turkey Vultures were regularly observed roosting on transmission line structures associated with the existing transmission lines. A pair of Red-tailed Hawks (*Buteo jamaicensis*) was observed attending a

stick nest approximately 0.2-miles east of the proposed Gen-tie right-of-way, on a Southwest Powerlink transmission line structure.

E. Mammals

Suitable mammal habitat is present within the Gen-tie survey area. Bob cat, kit fox and badger presence has been documented within the Energy Production and Utility Corridor N within the Yuha Desert FTHL Management Area. Desert black-tailed jackrabbit (*Lepus californicus deserticola*), desert cottontail (*Sylvilagus audubonii*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert kangaroo rat (*Dipodomys deserti deserti*), and coyote (*Canis latrans*) were detected often within the Gen-tie survey areas through direct observation as well as burrows, tracks, and scat.

3.12.3.4 SENSITIVE BIOLOGICAL RESOURCES

A. Special Status Plant Species

The one-mile segment of the Gen-tie Corridor south of the Imperial Valley Substation area has the highest potential for occurrence of sensitive plant species. The most extensive native communities along the Gen-tie Corridor occur here and there is a higher diversity of native species. Additionally, more water is available in this segment because of the ephemeral wash. Utah milkweed (*Funastrum utahense*), brown turbans (*Malperia tenuis*), slender wooly-heads (*Nemacaulis denudate* var. *gracilis*), desert unicorn plant (*Proboscidea althaeifolia*), and Parish's desert-thorn (*Lycium parishii*) could potentially occur due to the presence of suitable habitat. Thurber's pilostyles (*Pilostyles thurberi*) would have a high potential for occurrence in the smoke tree wash habitat because this genus is the host for Thurber's pilostyles.

Despite having a high potential for occurrence, brown turbans, Parish's desert-thorn Thurber's pilostyles, Utah milkweed, slender wooly-heads, Watson's amaranth, and desert unicorn plant were not found during the survey. There is potential habitat for all of these species within the native communities within this corridor. Ribbed cryptantha was observed in the Gen-tie Corridor approximately one mile south of the Imperial Valley Substation. Brown turbans, Thurber's pilostyles, Utah milkweed, and slender wooly-heads, are also known to occur in very close proximity to the site. Brown turbans, Utah milkweed, and slender wooly-heads occur in desert scrub communities that are present within this corridor. **Table 3.12-4** provides a detailed analysis of all special status plant species evaluated for the Gen-tie Survey area.

Federally-listed Species

Based on the literature review, no federally-listed threatened or endangered plant species were identified as having the potential to occur within the Gen-tie survey area. No federally listed threatened or endangered species were observed during focused rare plant surveys.

State-listed Species

Based on the literature review, no state-listed plant species were identified as having the potential to occur within the private lands portion of the survey area. No state-listed species were observed on-site during focused rare plant surveys.

BLM Sensitive Species

BLM sensitive species include all species currently on CNPS List 1B, as well as others that are designated by the California BLM State Director.

Wiggins croton (*Croton wigginsii*), a BLM Sensitive Species and a state rare species that historically is known only from the Algodones Dunes (35 miles northeast of the CSE Facility), has recently been reported from Plaster City, located about 12 miles to the northwest. There is some overlap in characters between Wiggins croton and California croton (*Croton californicus*), a common species. Croton individuals were observed along the Gen-tie Line corridor but exhibited characters more consistent with California croton, as described in the Jepson Desert Manual. John Messina and Andrew Trouette discussed this on November 15, 2010, and BLM directed that these individuals be called California croton (*Croton californicus*).

No other BLM Sensitive Species are expected to occur within the Gen-tie survey area.

Priority Plant Species

Priority plant species are rare, unusual, or key species that are not sensitive by BLM or listed as threatened and endangered. Priority plant species are specifically plants that are included on the CNPS Lists 2–4. Several priority plant species were identified as having the potential to occur within the survey area. **Table 3.12-4** provides additional detail about the potential for priority plant species to occur within the survey area.

Ribbed cryptantha (*Cryptantha costata*). Ribbed cryptantha, was observed along the Gen-tie Line Corridor just south of the Imperial Valley substation. Ribbed cryptantha is a California Native Plant Society (CNPS) List 4.3 species (CNPS List 4.3 species are the least sensitive species in the ranking system – a species of limited distribution but is not very endangered in California). Based on this survey, approximately 500-1,000 individuals were estimated to occur within the broad sandy wash approximately 2,500 feet south of the Imperial Valley substation. The wash is approximately 2,000 feet wide through the survey area, and individuals were scattered throughout this wash. Most occurrences of this species supported between 10 and 20 individuals.

Watson’s amaranth (*Amaranthus watsonii*). Watson’s amaranth would have a low to moderate potential for occurrence. Watson’s amaranth occurs in depressions that fill up with winter rains and waste places, which are generally lacking. Waste places are generally associated with agricultural activities and are probably too routinely disturbed to support this species.

Hairy stickleaf (*Mentzelia hirsutissima*). Hairy stickleaf would have only a moderate potential for occurrence in the desert scrub habitats as the site lacks habitat features (rocky areas) usually associated with this species.

Desert unicorn’s flowering period coincided with the July 2010 survey. The segment of the Gen-tie Corridor that runs south out of the Imperial Valley substation was surveyed in spring of 2009, which coincided with the flowering period of brown turbans, slender wooly-heads and hairy stickleaf. The 2009 survey was not conducted during the flowering periods for the Thurber’s pilostyles, desert unicorn plant, Utah vine milkweed, and Watson’s amaranth, so these species would not have been detectable during this survey. However, remnant evidence of Thurber’s pilostyles persists on its host for some time and was still evident on an offsite population at Plaster City during November 2010. Individuals of the genus *Psorothamnus* (both smoke tree and indigo bush) were periodically surveyed for evidence of Thurber’s

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pilostyles during the November survey but none were found. Despite its absence during the November 2010 survey, this species would still have a low to moderate potential for occurrence due to its cryptic life form.

Potential habitat for Abram’s spurge (*Chamaesyce abramsiana*) was also surveyed during the fall survey; this species was not observed. This is an ephemeral species that may not be evident every year. Despite its absence during the fall survey, this species would still have a low potential for occurrence due to its cryptic life form.

Additional spring rare plant surveys are currently being conducted. Results from the surveys are not currently available.

**TABLE 3.12-4
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Common/ Scientific Name	Listing Status	Habitat Description and Potential for Occurrence
Chaparral sand verbena (<i>Abronia villosa</i> var. <i>aurita</i>)	CDFG: Special Plant CNPS List 1B.1	Occurs in sandy floodplains or flats in generally, inland arid areas of sage scrub and open chaparral and desert dunes. Annual; blooms January – August. Not expected to occur onsite. Site generally outside of range of species; not observed during 2009 and 2010 surveys. Low potential to occur onsite. 2009 survey conducted during species traditional flowering period; 2010 survey was not. Known from Calxico and Seeley quads.
Watson’s amaranth (<i>Amaranthus watsonii</i>)	CDFG: Special Plant CNPS List 4.3	Sonoran Desert Scrub. Annual; blooms August – September. Not observed but 2009 and 2010 surveys occurred outside of traditional blooming period. Moderate potential for occurrence within desert scrub habitats along western segments of the corridors.
Harwood’s milk vetch (<i>Astragalus insularis</i> var. <i>harwoodii</i>)	CDFG: Special Plant CNPS List: 2.2	Sonoran Desert scrub with gravelly, sandy washes or dunes. Annual; blooms January-May. Known from southwest of Plaster City between S80 and I80. Appropriate habitat on the western segment of the Gen-tie corridor and the western terminus of the Central corridor. Not observed and low potential for occurrence onsite. 2009 surveys conducted during traditional blooming period. Known from Coyote Wells quad.
Little-leaf elephant (<i>Bursera microphylla</i>)	CDFG: Special Plant CNPS List: 2.3	Sonoran Desert alluvial fan scrub. Deciduous tree; blooms June-July. Not observed onsite; not expected to occur. Distinctive tree species would have been observed during surveys if present. Nearest location in In-Ko-Pah Gorge quad.
Fairy duster (<i>Calliandra eriophylla</i>)	CDFG: Special Plant CNPS List 2.3	Sonoran Desert scrub primarily on rocky hillsides and bajadas. Deciduous shrub; blooms January – March. Not observed during surveys. Not expected to occur due to absence of appropriate habitat. 2009 surveys conducted during traditional blooming period. One CNDDDB occurrence just southwest of southwestern corner of Gen-tie corridor.
Crucifixion thorn (<i>Castela emoryi</i>)	CDFG: Special Plant CNPS List 2.3	Playas and gravelly areas in Sonoran Desert scrub. Deciduous shrub; blooms April – July. Not observed during surveys. Distinctive shrub species would have been observed if present. Not expected to occur onsite. Known from Yuha Basin and Coyote Wells quads.

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**TABLE 3.12-4
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Common/ Scientific Name	Listing Status	Habitat Description and Potential for Occurrence
Peirson's pincushion (<i>Chaenactis carphoclinia</i> <i>var. peirsonii</i>)	CDFG: Special Plant CNPS List 1B.3	Sandy Sonoran Desert scrub. Annual; blooms March-April. Known only from the eastern Santa Rosa Mountains. Not expected to occur onsite. Not observed during surveys. 2009 surveys conducted during traditional blooming period.
Abram's spurge (<i>Chamaesyce</i> <i>abramsiana</i>)	CDFG: Special Plant CNPS List 2.2	Sandy Sonoran Desert scrub. Annual; blooms September – November. Surveys not conducted during this species traditional flowering period. Low-Moderate potential to occur in native desert scrub habitats onsite. Historical collections known from Calexico, Heber and Brawley quads. Not observed during the fall 2010 survey which was conducted during the traditional blooming period of this species.
Flat-seeded spurge (<i>Chamaesyce</i> <i>platysperma</i>)	BLM: Sensitive CDFG: Special Plant CNPS List 1B.2	Desert dunes and sandy Sonoran Desert scrub. Known in California from only four herbarium collections and one collection from Imperial County in 1987. Annual; blooms February – September. Known from Superstition Mountain and Kane Springs quads in Imperial County. Not observed onsite. 2009 surveys conducted during traditional blooming period. Not expected to occur. Species is very rare and site is outside of known range.
Wiggins croton (<i>Croton</i> <i>wigginsii</i>)	BLM: Sensitive CDFG Rare CNPS List 2.2	Desert dunes and Sonoran Desert scrub. Shrub; blooms March – May. Species restricted to Algodones Dunes. Known from near Plaster City between S80 and I80. Not observed and not expected to occur onsite. Limited habitat and site and is outside of species range. All individuals of Croton observed during the surveys displayed characteristics that were consistent with <i>C. californicus</i> including: seed size and shape, size of staminate sepals and flowering phenology.
Ribbed cryptantha (<i>Cryptantha</i> <i>costata</i>)	CDFG: Special Plant CNPS List: 4.3	Desert sand dunes and sandy desert scrub. Annual; blooms February – May. Observed in wash along Gen-tie corridor at intersection with Central Corridor. Expected to occur on Central Corridor.
Glandular ditaxis (<i>Ditaxis</i> <i>claryana</i>)	CDFG: Special Plant CNPS List 2.2	Sandy Sonoran Desert scrub. Herbaceous perennial; blooms October – March. Known from Algodones Dunes. Not observed. 2009-2010 surveys conducted during traditional blooming period. Not expected to occur onsite, site is outside of known range.
California ditaxis (<i>Ditaxis</i> <i>serrata</i> <i>var. californica</i>)	CDFG: Special Plant CNPS List 3.2	Sonoran Desert scrub. Herbaceous perennial blooms March-December. Nearest known occurrence Clark Lake Quad in northern Anza Borrego State Park. Not observed during surveys. Not expected to occur. Appropriate habitat present. 2009 and 2010 surveys conducted during traditional flowering period. Site well south of reported range of this species in California.

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**TABLE 3.12-4
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Common/ Scientific Name	Listing Status	Habitat Description and Potential for Occurrence
Rock nettle (<i>Eucnide rupestris</i>)	CDFG: Special Plant CNPS List 2.2	Sonoran Desert scrub. Annual; blooms December – April. Known from Mount Signal and Coyote Wells quads. CNDDDB occurrence from the CSE Facility but entire site is under cultivation. CNDDDB occurrence in Yuha Basin. Not observed during surveys. Low potential for occurrence. Site is well below reported lower elevational range (500m). Appropriate habitat present. 2009 surveys conducted during traditional flowering period. Reference population observed by S Johnston on 3-20-2009 in flower in Painted Gorge after conclusion of onsite surveys.
Utah vine milkweed (<i>Funastrum (=Cynachum) utahense</i>)	CDFG: Special Plant CNPS List: 4.2	Sandy Sonoran Desert Scrub. Herbaceous, perennial; blooms April – June. Known from southwest of Plaster City between S80 and I80. High potential for occurrence in native desert scrub habitats onsite. Known from Yuha Basin south of S80. Would not have been observable during 2009 surveys.
Curly herissantia (<i>Herissantia crispa</i>)	CDFG: Special Plant CNPS List 2.3	Sonoran Desert scrub. Annual-herbaceous perennial; Blooms August – September. Only known from two locations in California, both in San Diego County. Not known from Imperial County. Site is well below reported lower elevational range (700m). Not observed. Surveys not conducted during species traditional blooming period. Appropriate habitat present; however not expected to occur due to species known range.
California satintail (<i>Imperata brevifolia</i>)	CDFG: Special Plant CNPS List 2.1	Riparian scrub; desert scrub. Herbaceous perennial; blooms September – May. Not observed during surveys. 2009 and 2010 surveys conducted during traditional blooming period. CNDDDB occurrence immediately east of the CSE Facility between Greeson Wash and New River. Moderate –high potential for occurrence within desert wash habitats within Project Area, e.g. Greeson Wash. Riparian scrub habitats along canals and drains would have a low potential for occurrence due to vegetation maintenance activities and schedules. Areas more frequently cleared of vegetation would not be expected to support this species.
Baja California ipomopsis (<i>Ipomopsis effusa</i>)	CDFG: Special Plant CNPS List 2.1	Washes in Sonoran desert scrub. Annual; blooms April – June. Only known location in California from Pinto Wash west of the site. Considered a waif in California, more common in Baja, California. Appropriate habitat on the western segment of the Gen-tie Corridor and the western terminus of the Central Corridor. Not observed and not expected onsite due to known range and rarity in California. 2009 surveys conducted during traditional blooming period.
Slender-leaved ipomopsis (<i>Ipomopsis tenuifolia</i>)	CDFG: Special Plant CNPS List 2.3	Rocky/gravelly Sonoran Desert scrub. Herbaceous perennial; blooms March – May. Known from In-Ko-Pah Gorge quad. Not observed and not expected onsite. 2009 surveys conducted during traditional blooming period. No appropriate habitat onsite. Site outside of known range.
Pygmy lotus (<i>Lotus haydonii</i>)	CDFG: Special Plant	Rocky Sonoran Desert Scrub. Herbaceous perennial; blooms January – June. Known from In-Ko-Pah Gorge quad. Site is well below reported lower elevational range (520m). Not observed and not

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**TABLE 3.12-4
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Common/ Scientific Name	Listing Status	Habitat Description and Potential for Occurrence
	CNPS List 1B.3	expected onsite. 2009 surveys conducted during traditional blooming period. No appropriate habitat onsite. Site outside of known range.
Mountain Springs bush lupine (<i>Lupinus excubitus</i> var. <i>medius</i>)	BLM: Sensitive CDFG: Special Plant CNPS List 1B.3	Sonoran Desert scrub. Shrub; blooms March – May. .Known from In-Ko-Pah Gorge quad Site is well below reported lower elevational range (425m). Not observed and not expected onsite. 2009 surveys conducted during traditional blooming period. Marginal habitat (species range is more in desert transition habitats). Site outside of known range.
Parish’s desert-thorn (<i>Lycium parishii</i>)	CDFG: Special Plant CNPS List: 2.3	Sonoran Desert scrub with sandy plains and washes; Shrub; blooms March – April. Known from In-Ko-Pah Gorge quad. Not observed; low potential for occurrence onsite. Site is well below reported lower elevational range (300m). 2009 surveys conducted during traditional blooming period. Appropriate habitat present in native habitats in western segments of corridors.
Brown turbans (<i>Malperia tenuis</i>)	CDFG: Special Plant CNPS List: 2.3	Sandy, Sonoran Desert scrub. Annual, blooms March – April. Several CNDDDB locations in Yuha Basin near western segment of Gen-tie Corridor. Appropriate habitat present. Not observed. 2009 surveys conducted during traditional blooming period (March-April). Appropriate habitat present in native habitats in western segments of corridors. High potential for occurrence in appropriate habitat. Though 2009 surveys negative this is a very inconspicuous species.
Hairy stickleaf (<i>Mentzelia hirsutissima</i>)	CDFG: Special Plant CNPS List: 2.3	Sonoran Desert Scrub on rocky hillsides and desert mesas. Annual; blooms March – May. Known from Mount Signal quad. CNDDDB occurrence immediately north of the CSE Facility. Entire area of this occurrence, with exception of Greeson Wash, is under cultivation. 2009 survey conducted during traditional flowering period. Moderate potential for occurrence for the areas of native desert scrub habitats along the western segments of the gen-tie corridors. Rocky hillsides absent but desert mesas present.
Creamy blazing star (<i>Mentzelia tridentata</i>)	CDFG: Special Plant CNPS List 1B.3	Rocky, gravelly and sandy desert scrub. Annual; blooms March – May. Known from In-Ko-Pah Gorge quad. Not observed and not expected onsite. 2009 surveys conducted during traditional blooming period. Appropriate habitat present in native habitats in western segments of corridors. Site outside of known range in California and well below lower elevational limit (700 meters) reported for this species.
Slender wooly-heads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)	CDFG: Special Plant CNPS List: 2.2	Desert dunes and Sonoran Desert scrub. Annual; blooms March – May. Known from Coyote Wells quad. Not observed. 2009 surveys conducted during traditional blooming period. High potential for occurrence due to presence of appropriate native desert scrub habitats in western segments of corridors.
Giant Spanish-needle (<i>Palafoxia arida</i> var. <i></i>)	BLM: Sensitive CDFG: Special	Desert dunes. Annual-herbaceous perennial; blooms March – May. Known from Algodones Dunes. Not observed and not expected to occur. 2009 surveys conducted during traditional flowering period.

**TABLE 3.12-4
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Common/ Scientific Name	Listing Status	Habitat Description and Potential for Occurrence
<i>gigantea</i>)	Plant CNPS List 1B.3	Appropriate habitat is absent and site well west of reported range of species.
Desert unicorn-plant (<i>Proboscidea althaeifolia</i>)	CDFG: Special Plant CNPS List 4.3	Sandy, Sonoran Desert scrub. Herbaceous perennial; blooms May – August. High potential for occurrence in western segments of corridors due to presence of appropriate habitat. Not observed but 2009 surveys not conducted during traditional blooming period. Not observed during fall 2010 rare plant survey but survey may have been too late to observe this species.
Thurber’s pilostyles (<i>Pilostyles thurberi</i>)	CDFG: Special Plant CNPS List: 4.3	Herbaceous perennial parasitic on <i>Psorothamnus</i> sp.; blooms January. Known from Plaster City and Mount Signal. Not observed, 2009 surveys not conducted during traditional blooming period. CNDDDB occurrence from the CSE Facility but entire site is under cultivation, no host plants present. Known from southwest of Plaster City between S80 and I80. Species still observable at the Plaster City reference site at the time of the fall 2010 rare plant survey. High potential for occurrence in smoke tree wash habitat along the Central Corridor and the Gen-tie Corridor. Not observed during the fall 2010 rare plant survey but would still have a high potential for occurrence given high number of host plants.
Desert spike-moss (<i>Selaginella eremophila</i>)	CDFG: Special Plant CNPS List: 2.2	Rocky terrain in Sonoran Desert scrub. Herbaceous; “Blooms” May-July. Not observed, not expected to occur due to the lack of appropriate habitat. Site appears to be outside of range of species in California.
Dwarf germander (<i>Teucrium cubense</i> ssp. <i>depressum</i>)	CDFG: Special Plant CNPS List: 2.2	Sandy washes, streams and wet soils, Sonoran Desert scrub. Annual; blooms March – May (September-November). Known from Coyote Wells quad. Not observed during 2009 survey which was conducted during traditional spring flowering period. Appropriate habitat in western segments of gen-tie corridors. Not observed during fall 2010 survey though survey conducted at a time when this species historically blooms in fall.
Orcutt’s woody-aster (<i>Xylorhiza orcuttii</i>)	BLM: Sensitive CDFG: Special Plant CNPS List: 1B.2	Sonoran Desert scrub in rocky canyons and sandy washes. Herbaceous perennial; blooms March – April. Not observed. Low potential for occurrence. 2009 surveys conducted during traditional flowering period. Appropriate habitat in western segments of gen-tie corridors; however site might be at limits of known range.

Source: Heritage, 2011a and 2011b.

B. Special Status Wildlife Species

Fifteen special status wildlife species were determined to have the potential to occur within survey area and those whose potential occurrence is most pertinent to the Gen-tie survey area are discussed in

detail below. These species include federally listed species, state listed species, and BLM sensitive species that are known to occur in the Imperial Valley, as well as CDFG species of special concern that were observed during surveys.

Federally-listed Species

Peninsular Bighorn Sheep

Species Profile. Peninsular bighorn sheep, formerly known as *O. c. cremnobates*, was federally listed endangered on March 18, 1998, and state-listed threatened on June 27, 1971. Previously, *O. c. cremnobates* was considered to be distinct from the other subspecies of *Ovis canadensis*. However, new deoxyribonucleic acid (DNA) analysis has concluded that *O. c. cremnobates* are genetically indistinct from Nelson’s bighorn sheep (*Ovis canadensis nelsoni*); *O. c. cremnobates* was taxonomically reclassified as *O. c. nelsoni* and designed as a “distinct vertebrate population segment” (DPS). The Peninsular DPS occurs within the Peninsular Ranges and was listed as federally endangered. Critical habitat was designated in 2009 and includes portions of western Imperial County, approximately 14 miles west of the action area. A recovery plan was also prepared for the bighorn sheep in the Peninsular Ranges in 2000.

Peninsular bighorn sheep prefer steep, open slopes, canyons, and washes in hot and dry desert regions where the land is rough, rocky, and sparsely vegetated. Open terrain with good visibility is critical, because bighorn primarily rely on their sense of sight to detect predators. Most Peninsular bighorn sheep live between 300 and 4,000 feet in elevation, where average annual precipitation is less than four inches and daily high temperatures average 104 degrees Fahrenheit (°F) in the summer. Caves and other forms of shelter (for example, rock outcrops) are used during inclement weather and for shade during hotter months. In the Peninsular Ranges, bighorn sheep browse on a wide variety of plants, including shrubs, forbs, cacti, and grasses. Although steep escape route terrain is closely associated with bighorn sheep, low rolling and flat terrain including foothills and washes provide an alternative source of high quality browse forage during times when resources become limited. Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. Alluvial fans (sloping deposits of gravel, sand, clay, and other sediments that spread fanlike at the base of canyons and washes) are also used for breeding, feeding, and movement.

Peninsular bighorn sheep are closely associated with mountainous habitat and often are hesitant to venture far from escape terrain. Although they have been documented to move great distances from escape terrain on rare occasions, it is common to observe animals moving a short distance from escape terrain in search of forage or water sources, or moving between neighboring mountains. Researchers have documented animals ranging at a variety of distances from mountainous terrain (greater than 20 percent slope), from 0.5 to 1.6 miles, but Peninsular bighorn sheep were most frequently found within 0.5 miles of the mountainous terrain.

Historically, bighorn sheep have been documented in the Peninsular Ranges since early explorers such as Anza observed them in the 1700s. The distribution of Peninsular bighorn sheep has become more fragmented in the recent past, possibly due to the construction of roads that bisect ancestral bighorn trails and restrict bighorn movement. Bighorn sheep exhibit a naturally patchy distribution as a result of natural breaks in mountainous habitat. Currently, the Peninsular bighorn is distributed in fragmented populations from the Jacumba Mountains in San Diego County near the U.S./Mexico border to the San Jacinto Mountains in Riverside County.

Critical Habitat. Critical habitat for Peninsular bighorn sheep was designated in 2009 and includes portions of western Imperial County. Closed DCH is approximately 14 miles west of the action area in the Jacumba Mountains.

Occurrence. The nearest recorded location for this species was approximately 18 miles west of the survey area, in the rocky hills southwest of Ocotillo, California. The action area does not contain the steep, rocky terrain that typically provides cover and habitat for the Peninsular bighorn sheep. The Coyote, In-Ko-Pah, and Jacumba mountains that provide suitable year-round habitat for this species are located 13 to 16 miles from the survey area. The project is situated in the large agricultural complex that surrounds El Centro on the eastern edge of the Yuha Desert, and does not function as a movement corridor for Peninsular bighorn sheep between the Peninsular mountain ranges in western Imperial Valley. In addition, the site is too far from the Peninsular ranges and the corridors between the ranges to serve as a source for foraging or water. The small amount of desert wash vegetation within the survey area that could be suitable foraging habitat for this species is located near the Imperial Valley Substation and would require the Peninsular bighorn sheep to move over 12 miles from the Jacumba Mountains. The location of the survey area within predominantly agricultural lands also reduces the likelihood of use by Peninsular bighorn sheep, which are sensitive to human activity and disturbance.

Peninsular bighorn sheep were not detected in the survey area during numerous biological surveys conducted during all seasons from 2009 to 2011. Given the distance from suitable rocky terrain; agricultural lands within the survey area; distance of suitable foraging habitat from the Jacumba Mountains; lack of detection within the survey area; and the unlikelihood of the survey area to function as a corridor for this species, Peninsular bighorn sheep are not expected to occur within the survey area or the vicinity.

State-listed Species

State listed species with the potential to occur within the Gen-tie survey area include: greater Sandhill Crane (*Grus canadensis tabida*), barefoot banded gecko (*Coleonyx switaki*), Yuma clapper rail and Peninsular bighorn sheep. Sandhill crane and barefoot banded gecko are discussed in subsection 3.12.3.4, item B.

BLM Sensitive Species

Colorado Desert Fringe-toed Lizard (*Uma notata notata*)

Species. The Colorado Desert fringe-toed lizard is a CDFG Species of Special Concern and a BLM sensitive species. This species is primarily insectivorous, but will also feed on plant material. This species diet consists of ants, beetles, antlion larvae, hemipterans, grasshoppers, and caterpillars. Plant foods include buds, flowers, leaves, and seeds. Conspicuous and other lizards are also eaten occasionally. Sight is most frequently used to find food on the surface of sand. Buried fringe-toed lizards also use hearing to detect prey on the sand surface, or to find buried prey when above ground.

Fringe-toed lizards usually seek refuge from enemies by burrowing in the sand ("sand swimming") within 5 to 6 centimeters (2 to 2.4 inches) of the surface. They are usually buried on the lee sides of dunes and hummocks to prevent excavation by wind. Rodent burrows and the bases of shrubs are also used for cover and thermoregulation. Lizards usually hibernate in sand 30 centimeters (12 inches) deep, but juveniles and subadults may be found closer to the surface.

Habitat. The Colorado Desert fringe-toed lizard is found in the Colorado desert, south of the Salton Sea in Imperial and San Diego Counties. Its elevational range extends from sea level up to 180 meters (590 feet; Jennings and Hayes 1994). The Colorado Desert fringe-toed lizard is restricted to fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub.

Occurrence. This species has a moderate potential to occur within Creosote Bush – White Bursage Scrub (CBS and CBS-D) habitats present the survey area, but none were observed during surveys. This species is known to occur approximately two miles west of the survey area. Some of the area within this habitat represents potentially suitable habitat although loose sandy areas are limited in depth and extent and are not highly suitable.

Flat-tailed Horned Lizard (*Phrynosoma mcallii*)

Species. In California, the flat-tailed horned lizard (FTHL) was designated a sensitive species by the BLM in 1980. In 1988, a petition was submitted to the California Fish and Game Commission (CFGC) to list the species as endangered. In 1989, the commission voted against the proposed listing. In 1993, the USFWS published a proposed rule to list the FTHL as a threatened species. In 2006, the USFWS withdrew its proposal. On March 2, 2010, USFWS re-instated the 1993 proposed listing of the FTHL as federally threatened. The Ninth Circuit Court of Appeals has ordered the USFWS to make a final listing determination by November 3, 2010. On March 15, 2011, the USFWS again withdrew its proposal to list the FTHL under the Endangered Species Act (USFWS 2011).

FTHL has the typical flattened body shape of horned lizards. It is distinguished from other species in its genus by its dark dorsal stripe, lack of external openings, broad flat tail, and comparatively long spines on the head. The FTHL has two rows of fringed scales on each side of its body. The species has cryptic coloring, ranging from pale gray to light rust brown dorsally and white or cream ventrally with a prominent umbilical scar. The only apparent external difference between males and females is the presence of enlarged postanal scales in males. Maximum snout-vent length for the species is 3.3 inches.

FTHLs escape extreme temperatures by digging shallow burrows in the loose sand. Adults are primarily inactive from mid-November to mid-February. Juvenile seasonal activity is often dependent on temperature fluctuations. Breeding activity takes place in the spring with young hatching in late July and September. The diet of horned lizards typically consists of greater than 95 percent native ant species, mostly large harvester ants (*Pogonomyrmex* spp.).

The FTHL is found in the low deserts of southwestern Arizona, southeastern California, and adjacent portions of northwestern Sonora and northern Baja California, Mexico. In California, the FTHL is restricted to desert washes and desert flats in central Riverside, eastern San Diego, and Imperial counties. The majority of the habitat for the species is in Imperial County.

The lizard is known to inhabit sand dunes, sheets, and hummocks, as well as gravelly washes. The species is thought to be most abundant in creosote bush scrub vegetation communities. However, this species may also be found in desert scrub, desert wash, succulent shrub, alkali scrub, and sparsely vegetated sandy flats. It is typically found in dry, hot areas of low elevation (less than 800 feet).

Occurrence. The small amount of Creosote Bush – White Bursage Scrub (CBS and CBS-D) associated with the private land portion of the survey area has the potential to support FTHL.

Focused surveys for FTHL were performed within the Gen-tie survey area. A total of 14 observations of potential FTHL sign were recorded during the surveys: 12 FTHL scats (1-5 scats per record) and 2

potential FTHL tracks. The tracks were not definitively FTHL tracks because they were not fresh and the margins were blurred. No FTHL individuals were observed during the FTHL surveys.

Habitats in which observations were located were variable. FTHL sign was not limited to the sandiest portions of the survey area, and FTHL sign was found in disturbed areas in several instances (e.g. on an existing road), often times in areas with compacted and/or gravelly soils. Although no individuals were observed during the FTHL survey, one FTHL individual was observed on July 5, 2010 on the margin of the existing transmission line access road approximately 0.5 miles south of the southern-most ZOI transect.

FTHL sign was observed in the survey area. Thus, because the proposed Gen-Tie lines traverses the Yuha Desert FTHL Management Area and sign was observed, the entire survey area can be considered occupied.

California Species of Special Concern and Fully Protected Species

Four species that are classified as CDFG Species of Special Concern were observed within the survey area or were observed during surveys for nearby projects; Loggerhead Shrike, Crissal Thrasher (*Toxostoma crissale*), Least Bittern (*Ixobrychus exilis*) and LeConte's thrasher (*T. lecontei lecontei*). Golden eagle (*Aquila chrysaetos*), a CDFG Fully Protected Species, and protected under the Bald and Golden Eagle Protection Action, MBTA, and Fish & Game Code sections 3503, 3503.5, and 3513, was also observed within the Project Area. These species are discussed in subsection 3.12.3.4, item B.

C. Riparian Habitat or Sensitive Natural Communities

Sensitive vegetation communities are those that are considered rare or sensitive based on the level of disturbance or habitat conversion within their range. Vegetation communities associated with wetland or riparian habitats such as the several desert washes that cross the Gen-tie line corridor and the small amount of mesquite woodland present in the survey area are considered sensitive by CDFG.

D. Jurisdictional Waters

A jurisdictional delineation was conducted to determine the extent of ACOE, CDFG, and RWQCB resources within the survey area. The Gen-tie survey area for potentially jurisdictional waters comprised only the Gen-tie right-of-way (all alternatives).. The delineation results for these surveys are still being analyzed and the final Drainage Report was unavailable at the time of this document and has not been verified by ACOE or CDFG. The Drainage Report is currently being reviewed by the ACOE. The Drainage Report has not yet been submitted to CDFG at this time but will be submitted soon. Therefore, the following discussion of jurisdictional waters may change pending ongoing consultation with ACOE and CDFG.

ACOE Jurisdictional Waters

Five potential jurisdictional non-wetland waters of the U.S. were identified within the Gen-tie survey area. There are several isolated (no hydrological connection to a TNW), ephemeral washes that ACOE is not expected to assert jurisdiction. Access roads will impact 0.01 acres of ACOE jurisdictional waters.

CDFG Jurisdictional Waters

CDFG generally takes jurisdiction of all stream features including drains and canals. The CDFG jurisdiction extends from the top of bank to the opposite top of bank on these features or the limits of riparian vegetation if this vegetation extends beyond the top of the banks. Wetlands need to only fulfill

one of the three aforementioned ACOE criteria (hydrology, hydric soils, wetland vegetation) to be considered CDFG jurisdictional wetlands.

Under Section 1600 of the CDFG Code, CDFG jurisdiction includes "...bed, channel or bank of any river, stream or lake designated by the department in which there is any time an existing fish or wildlife resource or from which these resources derive benefit..." Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation or stream dependent terrestrial benefit.

A total of five features were identified as potentially state jurisdictional within the Gen-tie survey area. There were no non-jurisdictional features identified. Of the two Gen-tie alternatives identified, a maximum of 0.09 acre of permanent impacts are estimated within CDFG jurisdiction and temporary impacts are estimated to be no more than 0.40 acre.

E. Habitat Connectivity and Wildlife Corridors

Wildlife movement corridors and habitat linkages are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Corridors are generally local pathways connecting short distances usually covering one or two main types of vegetation communities. Linkages are landscape level connections between very large core areas and generally span several thousand feet and cover multiple habitat types. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors and linkages for wildlife travel. The habitat connectivity provided by corridors and linkages is important in providing access to mates, food, and water, allowing the dispersal of individuals away from high-density areas, and facilitating the exchange of genetic traits between populations.

Both avian and terrestrial wildlife species are able to move freely throughout the survey area and are not restricted to a specific corridor or linkage.

F. California Desert Conservation Area

The proposed Gen-tie line survey area lies within the Yuha Basin Area of Critical Environmental Concern (ACEC) of the California Desert Conservation Act (CDCA), and is within "Utility Corridor N", as designated by the CDCA.

SECTION 3.13
PALEONTOLOGICAL RESOURCES

3.13 PALEONTOLOGICAL RESOURCES

Paleontological resources, or fossils, are the remains and/or traces of prehistoric plant and animal life (typically older than 10,000 years old). This section describes federal, state and local regulations applicable to paleontological resources. It also describes the environmental setting with regard to geologic deposits on the project site and potential for these deposits to contain paleontological resources.

3.13.1 REGULATORY FRAMEWORK

3.13.1.1 FEDERAL

The major laws protecting fossils on BLM lands are the Federal Land Policy and Management Act (1976), the National Environmental Policy Act (1969), the Paleontological Resources Preservation Act of 2009 (Omnibus Act) and various sections of Part 43 of the Code of Federal Regulations. The BLM has also developed guidance for the assessment, treatment, and protection of paleontological resources on BLM lands in the following Instruction Memorandums (IMs).

- **IM 2008-009 Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (i.e. BLM land).** This IM establishes that the PFYC system will be used to classify paleontological resource potential on public lands in order to assess possible resource impacts and mitigation needs for Federal actions involving surface disturbance, land tenure adjustments, and land-use planning. The PFYC system is based on the potential for the occurrence of significant paleontological resources in a geologic unit, and the associated risk for impacts to the resource based on Federal management actions. The PFYC replaces earlier classifications in BLM Handbook (H-8970-1).
- **IM 2009-011 Assessment and Mitigation of Potential Impacts to Paleontological Resources.** This IM establishes guidance for assessing potential impacts to paleontological resources in order to determine mitigation steps for federal actions on public lands under the FLPMA and NEPA. Paleontological resource management objectives include the evaluation, management, protection and location of fossils on BLM managed lands. This management policy also includes measures to ensure that proposed undertakings do not inadvertently damage or destroy scientifically significant paleontological resources.

3.13.1.2 STATE

A. Public Resources Code, Chapter 1.7, Sections 5097.5 and 30244

Several sections of the California Public Resources Code protect paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on state lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for adverse impacts to paleontological resources that occur as a result of development on public lands.

3.13 PALEONTOLOGICAL RESOURCES

3.13.1.3 LOCAL

The Imperial County General Plan does not specify any goals or objectives for paleontological resources. However, paleontological resources are a sub-category of cultural resources. The Conservation and Open Space Element of the General Plan contains a goal and objective to preserve cultural resources.

Table 3.11-1 analyzes the consistency of the project with the applicable goal and objective relating to cultural resources found in the Imperial County General Plan. While this EIR/EA analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

**TABLE 3.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
Conservation and Open Space		
Preservation of Cultural Resources		
<p>Goal 3: Important prehistoric and historic resources shall be preserved to advance scientific knowledge and maintain the traditional historic element of the Imperial Valley landscape.</p>	<p align="center">Yes</p>	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing have the potential to result in impacts to prehistoric resources based on the project’s location in an area containing a high probability for the discovery of fossils. The <i>Addendum Paleontological Resource Assessment Centinela Solar Energy, LLC, Imperial County, California</i> (SDNHM, 2011) prepared for the project identified the need for mitigation or field surveys to reduce potential for impacts to fossils. Thus, the Proposed Action and Alternatives 1, 2 and 3 are consistent with this goal. The project would not be implemented as part of Alternative 4 – No Action/No Project. Thus, Alternative 4 would also be consistent with this goal.</p>
<p>Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.</p>	<p align="center">Yes</p>	<p>The Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would be subject to implementing field surveys or mitigation monitoring. However, Alternative 3 would result in construction of 11 fewer towers and 3 miles less of Gen-tie Line (compared to the Proposed Action and Alternatives 1 and 2) on BLM land where potential for fossil resources is highest. While the Proposed Action and Alternatives 1, 2 and 3 are consistent with this objective, Alternative 3 would result in the most protection and preservation through avoidance of</p>

3.13 PALEONTOLOGICAL RESOURCES

**TABLE 3.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
		paleontological resources. The project would not be implemented as part of Alternative 4 – No Action/No Project. Thus, Alternative 4 would also be consistent with this goal.

3.13.2 AFFECTED ENVIRONMENT

The description of the affected environment is based on the *Addendum Paleontological Resource Assessment Centinela Solar Energy, LLC, Imperial County, California* (hereinafter *Addendum*) (SDNHM, 2011) prepared by the Department of PaleoServices, San Diego Natural History Museum. The *Addendum* summarizes existing paleontological resource data in the project area and vicinity as identified during a field survey of the alignment through BLM land.

The project site is located in the Imperial Valley portion of the Salton Trough physiographic province of Southern California. The site and surrounding Imperial Valley is directly underlain by geologic units comprised of quaternary lake deposits of the ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. The oldest sedimentary rocks in the vicinity of the project site consist of fossil-rich marine mudstones and siltstones of the Imperial Group that formed on the submerged marine portions of the ancestral Colorado River delta.

Paleontological resources at the project site were categorized using the PFYC system, which designates the sensitivity for encountering fossils resources into five classes, with Class 1 being Very Low Potential and Class 5 being Very High Potential. The sensitivity for encountering fossils at the project site, using the PFYC system, is as follows:

- **Class 1 – Very Low.** Geologic units with very low yield potential are those that are not likely to contain fossil remains, such as igneous and metamorphic rocks, as well as sedimentary rocks that are older than 542 million years (Precambrian in age). No rock units assigned Class 1 occur within the CSE Project Area.
- **Class 2 – Low.** Geologic units with low yield potential are those that are not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils, such as units that are generally younger than 10,000 years old, recent aeolian deposits, and sediments that have undergone significant physical and chemical changes. No rock units assigned to Class 2 occur within the CSE Project Area.
- **Class 3 – Moderate or Unknown.** Geologic units with moderate or unknown yield potential are sedimentary deposits in which fossil discoveries vary in significance, abundance, and predictable occurrence (moderate), or sedimentary units of unproven or unknown fossil potential. Examples of Class 3 deposits include marine sedimentary rock units with sporadic known occurrences of vertebrate fossils, sedimentary rock units containing common invertebrate or

3.13 PALEONTOLOGICAL RESOURCES

plant fossils, or sedimentary rock units that exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. Deposits of Quaternary alluvium are assigned to Class 3 on PFYC.

- **Class 4 – High.** Geologic units with high yield potential are those that contain a high occurrence of significant fossils that have been documented, but which may vary in occurrence and predictability. Examples of Class 4 deposits include sedimentary rock units with regular known occurrences of vertebrate fossils from well exposed natural outcrops or sedimentary rock units with scientifically significant invertebrate or plant fossils known to vary in occurrence and predictability. The Lake Cahuilla deposits, Quaternary older alluvium, and Brawley Formation are assigned to Class 4 on PFYC.
- **Class 5 – Very High.** Geologic units with very high yield potential are those that consistently and predictably produce vertebrate or scientifically significant non-vertebrate fossils. No rock units assigned Class 5 occur within the CSE Project Area.

SECTION 3.14
ENVIRONMENTAL JUSTICE

3.14 ENVIRONMENTAL JUSTICE

3.14.1 REGULATORY FRAMEWORK

3.14.1.1 FEDERAL

A. Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 was issued on February 11, 1994 by President Clinton. EO 12898 requires the all federal agencies, as well as state agencies receiving federal funds, to analyze the effects of their decisions on human health and environmental conditions in minority and low-income communities and to develop strategies to address environmental justice. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

In 1997, the Council on Environmental Quality (CEQ) published *Environmental Guidance Under the National Environmental Policy Act* (CEQ, 1997) to assist Federal agencies with developing NEPA procedures so that environmental justice concerns are effectively identified and addressed. This document identifies that environmental justice analysis should address impacts to minority populations, low-income populations, and Indian tribes. Where a potential environmental justice issue is identified, the analysis should determine, in light of all of the facts and circumstances, whether a disproportionately high and adverse human health or environmental impact on minority populations, low-income populations, or Indian tribe is likely to result from the proposed action and any alternatives.

The following definitions for low-income population, minority, minority population, disproportionately high and adverse human health effects, and disproportionately high and adverse environmental effects are based on the language of Appendix A of the CEQ guidance document:

- *Low-income population:* Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty.
- *Minority:* Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
- *Minority population:* Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.
- *Disproportionately high and adverse human health effects:* When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms;
 - Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
 - Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.
- *Disproportionately high and adverse environmental effects:* When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 - Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe;
 - Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and
 - Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Based on the project's location in Imperial County, an area with a high percentage of minorities and low-income persons as described below, it is appropriate to consider environmental justice.

3.14.1.2 STATE

A. California Government Code Section 65040.12 and PRC Section 72000

At the State level, California Government Code Section 65040.12(e) law defines environmental justice as "the fair treatment of people of all races, cultures, and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

While the proposed project does involve development, adoption, implementation, and enforcement of environmental laws, regulations, and policies, this code demonstrates that California also identifies the need for environmental justice at the State level.

B. California Environmental Quality Act Section (CEQA)

CEQA Section 15131(a), Economic and Social Effects, of the California Environmental Quality Act (CEQA) notes that economic or social effects of a project do not need to be treated as significant effects on the environment. Rather, the analysis should focus on physical changes to the environment. Section 15131(a) notes that economic or social effects of a project may be used to determine the significance of physical changes caused by the project. However, where an EIR uses economic or social effects to determine that a physical change is significant, the reason for determining that the effect is significant must be explained. Similarly, CEQA Section 1538, Significant Effect on the Environment, states that an

“economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”

The focus of the analysis for the proposed project is on physical changes to the environment since the project site is located in a rural, unpopulated portion of Imperial County.

3.14.2 AFFECTED ENVIRONMENT

The proposed CSE Facility site and associated Gen-tie Line is located on privately held agricultural land in unincorporated western Imperial County and BLM land. The County is in Southern California, bordering Mexico, west of Arizona, and east of San Diego County. The project site is located in a rural portion of Imperial County with no major population base in the immediate (e.g. one-half mile) vicinity. The closest populated areas are more than five miles from the project site: the City of El Centro, eight miles northeast; the City of Calexico eight miles to the southeast; the community of Seeley seven miles north; and the community of Heber seven miles to the east.

The proposed CSE Facility site is located in Census Tract 119 in Census Tract Block Group 1 in Imperial County (**Figure 3.14-1**).

Examining impacts that may disproportionately affect a low income and/or minority population requires analysis at several different scales, depending on the specific environmental issue area. Chapter 4.14 discusses impacts associated with human health (e.g., exposure to significant impacts associated with hazardous conditions, air pollution, noise, etc.) and environmental changes (e.g., traffic, cultural resources, aesthetics, etc.). The “affected area” for each of these discussions ranges from the general vicinity of the project site (Census Tract 119) to the entire County of Imperial.

To determine whether significant impacts that would adversely affect a low income and/or minority population are “disproportionate,” the impact must be compared to a broader population, either the general population or other appropriate comparison area. For the purposes of this project, impacts to low income and/or minority groups within the area affected by the project will be compared to impacts that would affect the broader combined population of Imperial County, San Diego County, and Orange County, since each of these regions may benefit from the Proposed Action in one form or another.

A. Socioeconomic Characteristics of Imperial County

Table 3.14-1 provides a brief overview of the economic and demographic characteristics of Imperial County compared to the City of El Centro, City of Calexico and Census Tract 119 in the year 2009 (the most current information available for comparing the categories identified). The census tract’s location relative to the two cities is shown in **Figure 3.14-1**.

The information indicates that the County and Census Tract 119 each have a minority population that is predominantly Hispanic. The percent of families living in poverty is slightly above or below 20 percent in Imperial County and Census Tract 119. When the affected area is compared to the broader region, which includes Imperial, Orange, and San Diego Counties, both the minority population and low-income population have higher concentrations than in the general region.

3.14 ENVIRONMENTAL JUSTICE

**TABLE 3.14-1
ECONOMIC AND DEMOGRAPHIC INFORMATION, AFFECTED AREA (2009)**

Category	Imperial County	Census Tract 119
Total Population	160,034	9,043
Population 16 and Over	116,367	6,450
Percent Hispanic	76.1%	96.5%
Percent Minority	82.6%	97.6%
Unemployment Rate (Civilian Labor Force)	12.9%	10.2%
Median Household Income	\$37,595	\$45,348
Median Family Income	\$42,229	\$47,063
Per Capita Income	\$16,017	\$16,054
Median Male Earnings (full-time, year-round workers)	\$40,941	\$38,038
Median Female Earnings (full-time, year-round workers)	\$28,244	\$38,381
Families Living in Poverty	19.2%	19.0%
Children in Poverty	27.2%	16.1%
Seniors in Poverty	13.4%	22.6%
Percent that Work in Farming, Fishing and Forestry	5.8%	4.5%
Percent that Work in Construction, Extraction, Maintenance and Repair Occupations	8.9%	5.4%
Percent that Work in Service Occupations	21.3%	15.1%

Source: U.S. Census Bureau, 2011. American Community Survey, Selected Economic Characteristics: 2005-2009.

¹Imperial County, Orange County, and San Diego County.

Therefore, there is the potential for environmental justice issues associated with the Proposed Action to have an effect on the local minority and low-income populations affected by the project. Environmental justice impacts are discussed in Section 4.14.

**TABLE 3.14-2
ECONOMIC AND DEMOGRAPHIC INFORMATION, COMPARISON REGION, 2009**

Category	Imperial County	Orange County	San Diego County	Comparison Region ¹
Total Population	160,034	2,976,831	2,987,543	6,124,408
Population 16 and Over	116,367	2,219,097	2,255,078	4,584,910
Percent Hispanic	76.1%	33.2%	30.4%	32.9%
Percent Minority		51.3%	46.0%	49.6%
Unemployment Rate (Civilian Labor Force)	12.9%	4.2%	4.2%	6.6%
Median Household Income	\$37,595	\$73,738	\$62,901	-
Median Family Income	\$42,229	\$83,338	\$73,994	-
Per Capita Income	\$16,017	\$33,901	\$30,705	-
Median Male Earnings (full-time, year-round workers)	\$40,941	\$53,079	\$48,978	-
Median Female Earnings (full-time, year-round workers)	\$28,244	\$43,033	\$40,294	-
Families Living in Poverty	19.2%	6.7%	7.8%	7.6%
Children in Poverty	27.2%	12.9%	15.4%	12.6%
Seniors in Poverty	13.4%	6.9%	7.6%	7.4%
Percent that Work in Farming, Fishing and Forestry	5.8%	0.3%	0.4%	0.5%
Percent that Work in Construction, Extraction, Maintenance and Repair Occupations	8.9%	7.5%	8.7%	8.1%
Percent that Work in Service Occupations	21.3%	15.4%	17.8%	16.7%

Source: U.S. Census Bureau, 2011. American Community Survey, Selected Economic Characteristics: 2005-2009.

¹Imperial County, Orange County, and San Diego County

B. Minority Population

In 1997, the CEQ issued Environmental Justice Guidance that defines “minorities” as individuals who are members of the following population groups:

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black not of Hispanic origin;
- Hispanic (without double-counting non-white Hispanics falling into the Black/African-American, Asian/Pacific Islander, and Native American (Indian) categories)

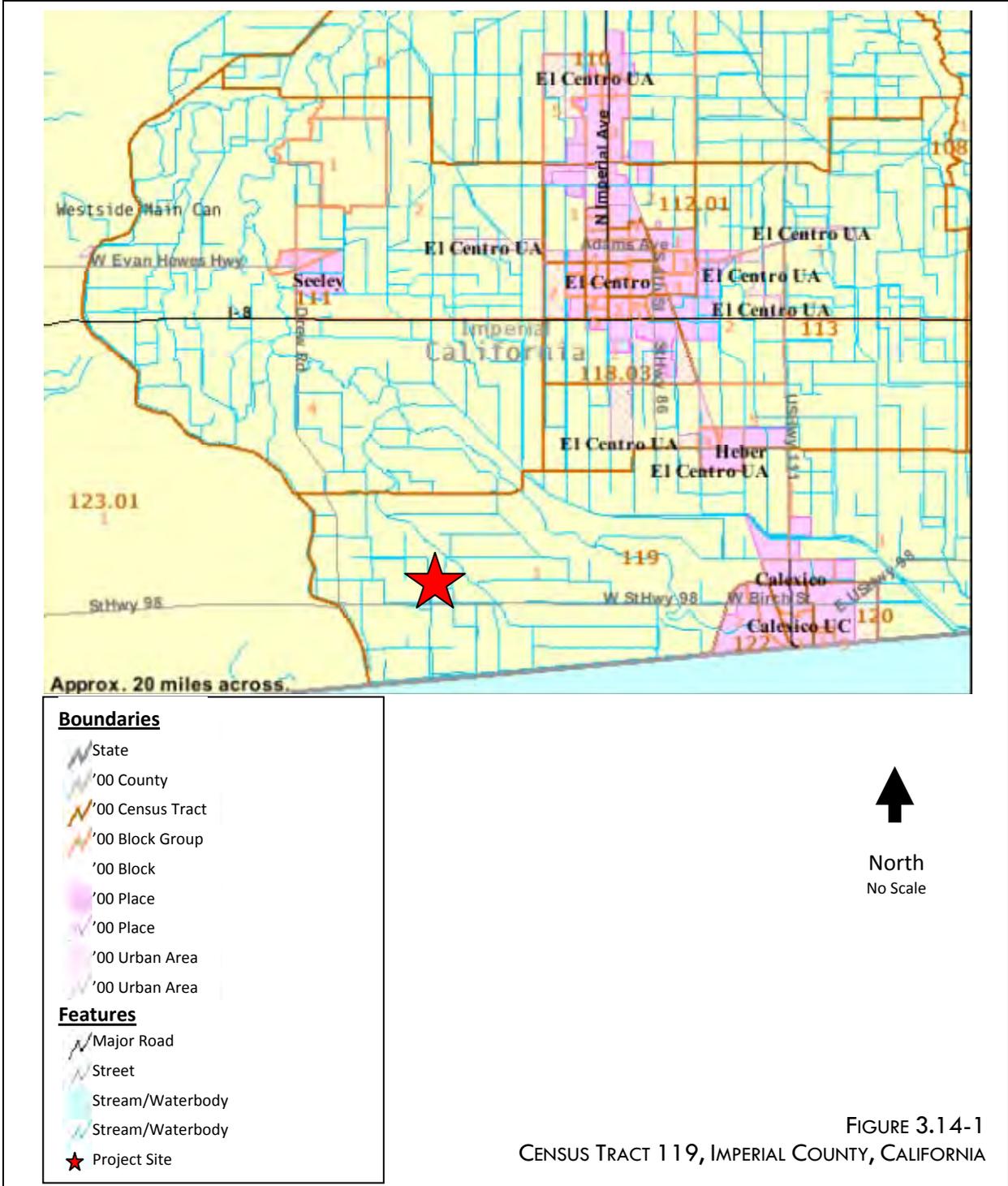
The total minority population is calculated as follows:

Total minority population = Black or African-American + Hispanic or Latino + Asian + Native Hawaiian and Other Pacific Islander + American Indian and Alaska Native.

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3.14 ENVIRONMENTAL JUSTICE



Source: U.S. Census Bureau, 2011.

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3.14 ENVIRONMENTAL JUSTICE

Table 3.14-3 identifies the minority populations of Imperial County, Census Tract 119, and the comparison region of Imperial, Orange, and San Diego Counties.

**TABLE 3.14-3
MINORITY POPULATION COMPARISON (BY PERCENT)***

Race	Imperial County	Census Tract 119	Comparison Region ¹
Black or African-American	3.6%	0.0%	3.2%
Hispanic or Latino	76.1%	96.5%	32.9%
Asian	2.1%	1.3%	12.7%
Native Hawaiian and Other Pacific Islander	0.1%	0.0%	0.4%
American Indian and Alaska Native	1.6%	0.2%	0.4%
Total Minority Population	82.6%	97.6%	49.6%

Source: U.S. Census Bureau, 2011. American Community Survey Demographic and Housing Estimates: 2005-2009.

*Note: Percentage does not total 100 because the table only includes minority races, not all races.

¹Imperial County, Orange County, and San Diego County

As shown in **Table 3.14-3**, both the County and Census Tract 119 have a minority population greater than 50 percent, 82.6 percent and 97.6 percent respectively, contrasted with the comparison region which has a minority population just under 50 percent (49.6%). While the Hispanic category is the highest of all minority groups in each geographic area, Imperial County has a Hispanic population of 76.1 percent and Census Tract 119 has a Hispanic population of 96.5 percent. Imperial County has a higher American Indian/Alaskan Native concentration than the comparison region. Other minority groups, Black or African American, Asian, and Native Hawaiian and Other Pacific Islander, have comparable or lower concentrations in Imperial County and Census Tract 119 than in the comparison region.

C. Low-Income Population

In 1997, the CEQ issued Environmental Justice Guidance that defines “low-income populations” as populations with mean annual incomes below the annual statistical poverty level. The poverty level for 2009 was set at \$22,050 (total yearly income) for a family of four (HHS, 2009). **Table 3.14-4** summarizes poverty and low-income information for Imperial County, Census Tract 119, and the comparison region of Imperial, Orange, and San Diego Counties.

**TABLE 3.14-4
LOW-INCOME POPULATION COMPARISON (BY PERCENT)**

Category	Imperial County	Census Tract 119	Comparison Region ¹
Families Below Poverty Level	19.2%	19.0%	7.6%
Children Below Poverty Level	27.2%	16.1%	12.6%
Seniors Below Poverty Level	13.4%	22.6%	7.4%
Family Income and Benefits (in 2009 inflation adjusted dollars)			
Less than \$10,000	7.4%	12.2%	2.9%
\$10,000 to \$14,999	5.8%	1.5%	2.3%
\$15,000 to \$24,999*	15.1%	11.2%	6.7%
Median Earnings for Workers	\$22,291	\$21,052	N/A

Source: U.S. Census Bureau, 2011. American Community Survey, Selected Economic Characteristics: 2005-2009.

*Note: This range of income levels includes and slightly exceeds the 2009 poverty level of \$22,050.

¹Imperial County, Orange County, and San Diego County

3.14 ENVIRONMENTAL JUSTICE

As show above, both Imperial County and Census Tract 119 have higher concentrations of families in poverty than in the comparison region. In Imperial County and Census Tract 119, 27.2 percent and 16.1 percent, respectively, of children (persons under 18) live in poverty, compared with 12.6 percent in the comparison region. Both Imperial County and Census Tract 119 have higher concentrations of seniors (persons aged 65 or more) in poverty at 13.4 percent and 22.6 percent, respectively, compared with the comparison region (7.4 percent).

SECTION 3.15

RECREATION

3.15 RECREATION

This section examines describes recreational facilities located on BLM lands. The project, as a solar energy facility, was determined not to create demand for recreation or parks as part of the Initial Study and was scoped out from requiring further analysis under CEQA. As a result, the description of the environmental setting applies only to BLM land, not private land in Imperial County.

3.15.1 REGULATORY FRAMEWORK

3.15.1.1 FEDERAL

A. CALIFORNIA DESERT CONSERVATION AREA PLAN

Recreation Element

The California Desert Conservation (CDCA Plan) (BLM, 1980) includes a Recreation Element to address use of, and access to, recreational destinations within the California Desert. The management goals of the CDCA Plan Recreation Element are as follows:

- (1) Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use.
- (2) Provide a minimum of recreation facilities. Those facilities should emphasize resource protection and visitor safety.
- (3) Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources.
- (4) Emphasize the use of public information and educational techniques to increase public awareness, enjoyment, and sensitivity to desert resources.
- (5) Adjust management approach to accommodate changing visitor use patterns and preferences.
- (6) Encourage the use and enjoyment of desert recreation opportunities by special populations, and provide facilities to meet the needs of those groups.

In order to accommodate the goals, access to the desert must be provided while protecting sensitive resources. The Recreation Element states the following with regard to access:

“To engage in most desert recreational activities outside of open areas, visitors must use motorized vehicles and usually travel on some previously used or marked motorized-vehicle route. Understandably, vehicle access is among the most important recreation issues in the Desert. A primary consideration of the recreation program, therefore, is to ensure that access routes necessary for recreation enjoyment are provided” (BLM, 1980, p. 84).

While no recreation areas are located within 10 miles of the project site, roads which provide access to recreational areas are located near the Gen-tie Line segment on BLM lands.

Western Colorado (WECO) Off Highway Vehicle Routes of Travel Designation Plan

The Western Colorado Off-Highway Vehicle Routes of Travel Designation Plan (WECO Plan) is an amendment to the CDCA Plan. The WECO planning area covers approximately 475,000 acres and approximately 2,320 miles of off-road vehicle routes in parts of Imperial and San Diego counties. The

plan provides a balance between protecting resources and providing for off-highway vehicle use by updating previous designations for off-road vehicle limited areas in Imperial County.

The WECO Plan is depicted on 18 map sheets. Each sheet depicts “limited” and “open” routes. Limited routes restrict vehicle travel to approved and signed routes. No cross-county vehicle travel is allowed on limited routes. In contrast, open routes allow all forms of cross-county travel within posted boundaries.

Sheet #1 covers the Yuha Basin and Mount Signal. The proposed Gen-tie Line would extend through the Mount Signal area depicted on Sheet #1 (Figure 3.15-1). Two open access roads border the east and west sides of the Westside Main Canal. These roads are located on private lands in Imperial County and would be crossed by the Gen-tie Line as it extends west into Utility Corridor N on BLM Land. Multiple limited access roads are located near the east-west segment of the Gen-tie Line within Utility Corridor N. The east-west segment Gen-tie Line would cross two of these roads which are aligned north-south.

3.15.2 AFFECTED ENVIRONMENT

3.15.2.1 SETTING AND EXISTING CONDITIONS

The proposed project/Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The proposed project/Proposed Action includes the 2,067 acre CSE Facility on private land and Gen-tie Line corridor through private property easements and federal land managed by the BLM. The CSE Facility site is designated primarily as Agriculture (A-2, A-2-R and A-3) with a small portion designated as Open Space/Recreation (S-1) on the Imperial County General Plan Land Use Map. Agricultural areas may be used for recreational activities such as hunting or walking, but such activities are not assumed to occur with high frequency.

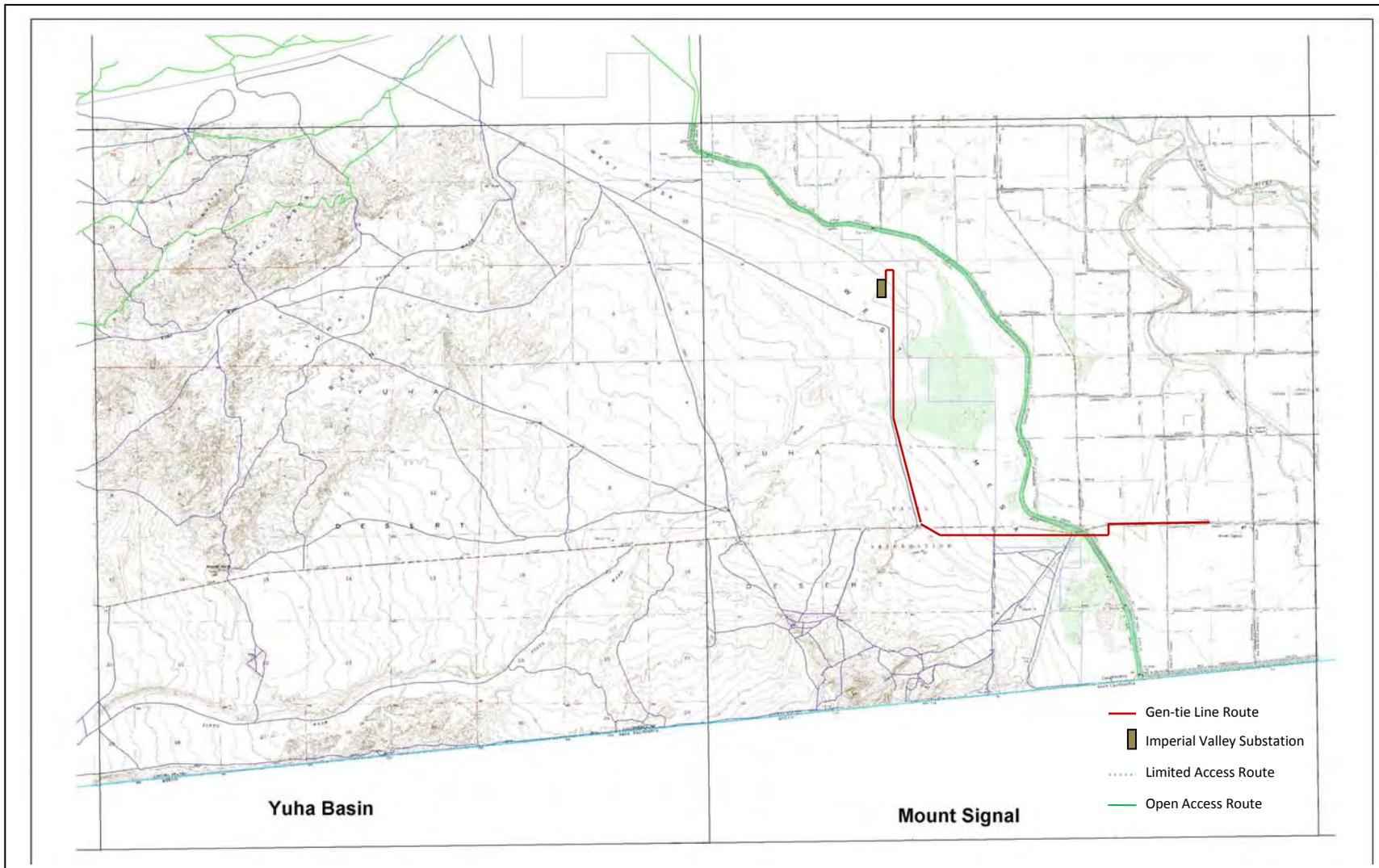
In contrast, lands managed by the BLM do contain areas devoted to recreation. While none are located in the immediate vicinity of the project site, roads providing access to these areas would be crossed at several locations by the proposed Gen-tie Line. Therefore, the primary focus of the recreation setting and existing conditions is on the Gen-tie Line corridor and access roads located within BLM lands.

A. CALIFORNIA DESERT CONSERVATION AREA PLAN

As discussed above, the Gen-tie Line segment through BLM land would cross both limited and open access roads. The Gen-tie Line would be located within Utility Corridor N which is devoted to infrastructure and minimizing the number of separate rights-of-way. The corridor is a designated area for new electrical transmission towers and cables of 161-kV or above (BLM, 1980, p. 115). Currently there are three sets of towers aligning north-south through the corridor and terminating at the Imperial Valley Substation. Another set of towers and 230-kV line extends north from the substation and a 500-kV line aligns east-west through the corridor perpendicular to the substation (refer to Figure 2.0-22 in Chapter 2.0).

B. IMPERIAL COUNTY GENERAL PLAN

The majority of the land in Imperial County is designated as Open Space/Recreation according to the Imperial County General Plan Land Use Map. The CSE Facility site is zoned primarily as Agriculture (A-2, A-2-R and A-3) with a small portion on the western edge designated as Open Space/Recreation (S-1) (refer to Figure 3.2-1 in Section 3.2). Agricultural areas may be used for recreational activities such as hunting or walking. However, these activities are not assumed to occur with high frequency.



Source: WECO Map Sheet #1, 2002.

FIGURE 3.15-1
WESTERN COLORADO ROUTE DESIGNATION – SHEET #1

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3.15 RECREATION

Lands managed by the BLM are zoned by the County as Government/Special (G-S) (refer to Figure 3.2-1 in Section 3.2). As noted in Table 3.2-2, this zoning is used to designate areas that allow for the construction, development and operation of governmental facilities and special public facilities. While recreation is not specifically identified within this zoning designation, it would qualify as a special public facility.