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CHAPTER 4 – ENVIRONMENTAL IMPACT ASSESSMENT

4.1 AESTHETICS

Would the Project:	Potentially Significant Impact	Less-Than-Significant Impact with Mitigation Measures	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1.0 Introduction

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that can be seen and that contribute to the public's experience and appreciation of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics, potential visibility, and the extent to which its presence will alter the perceived visual character and quality of the environment. In general, the San Diego Gas & Electric Company (SDG&E) East County (ECO) Substation Project (Proposed Project) will involve incremental and minor changes to a sparsely settled landscape. With the implementation of the applicant-proposed measures (APMs), it is anticipated that visual impacts will be less than significant.

4.1.1 Methodology

The analysis of potential visual effects associated with the Proposed Project is based on both site reconnaissance and review of technical data, including maps and drawings provided by SDG&E. The analysis is also based on a review of aerial and ground-level photographs of the Proposed Project area, local planning documents, and computer-generated visual simulations, which show the Proposed Project's appearance. Field observations were conducted in April 2008 to document existing visual conditions in the Proposed Project vicinity and to identify potentially affected sensitive viewing locations.

The visual study conducted for the Proposed Project employed assessment methods based, in part, on the methods used by the United States (U.S.) Department of Transportation (DOT)

Federal Highway Administration, Bureau of Land Management (BLM), and on other accepted visual analysis techniques. The study also addressed the California Environmental Quality Act (CEQA) Guidelines for visual impact analysis. Central to this assessment is an evaluation of representative public views from which the Proposed Project will be visible. To document the visual changes that will occur, visual simulations show the Proposed Project from a subset of the visual character photographs, representing key viewpoints. The visual simulations are presented as before and after images from each of these key viewpoints. The visual impact assessment was based on an evaluation of the changes to the existing visual resources that will result from construction and operation of the Proposed Project.

4.1.2 Existing Conditions

This section includes a description of the regulatory framework and visual setting. Existing visual conditions are characterized in terms of the physical landscape features that comprise visual resources in the Proposed Project area.

Regulatory Background

The following section describes public plans and policies related to visual quality in the Proposed Project area, including the ECO Substation site, the Boulevard Substation rebuild area, and areas crossed by the 138 kV transmission line route. As outlined in Section 4.9 Land Use and Planning, the Proposed Project is not subject to local land use and zoning regulations, and use permits are not required for construction and operation of the facilities. However, as part of the environmental review process, SDG&E has considered relevant county land use plans and policies, including those pertaining to visual quality.

San Diego County General Plan

The San Diego County General Plan contains several policy elements, including Conservation, Housing, Open Space, Regional Land Use, and Recreation. With the exception of the Scenic Highway Element (which is discussed below), the San Diego County General Plan elements do not address visual quality. As noted in Section 4.9 Land Use and Planning, the county is in the process of revising the San Diego County General Plan (General Plan 2020). As a result, the information outlined as follows is subject to change.

Eastern San Diego County Resource Management Plan

In order to meet its responsibility to maintain the scenic values of the public lands, the BLM has developed a Visual Resources Management (VRM) system that addresses the following:

- Different levels of scenic value require different levels of management. For example, management of an area with high scenic value might be focused on preserving the existing character of the landscape, and management of an area with little scenic value might allow for major modifications to the landscape. Determining how an area should be managed first requires an assessment of the area's scenic values.
- Assessing scenic values and determining visual impacts can be a subjective process. Objectivity and consistency can be greatly increased by using the basic design elements of form, line, color, and texture, which have often been used to describe and evaluate

landscapes and describe proposed projects. Projects that repeat these design elements are usually in harmony with their surroundings; those that don't create contrast. By adjusting project designs so the elements are repeated, visual impacts can be minimized.

BLM's VRM system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. It also provides a way to analyze potential visual impacts and apply visual design techniques to ensure that surface-disturbing activities are in harmony with their surroundings. The BLM's VRM system is comprised of four classes with corresponding objectives. A description of the class and the corresponding objective is as follows:

- **Class I Objective.** 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 Objective.** 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 change must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- **Class III Objective.** 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 Objective.** The objective of this class is to provide for management activities which require major modifications to 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 may 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. (USDI BLM Manual 8410, pp. 6-7)

Just west of the ECO Substation, the Proposed Project route crosses BLM land for approximately 7,850 feet or 1.5 miles. In this area, the Proposed Project runs parallel to the existing Southwest Powerlink (SWPL) line. According to the Eastern San Diego County Resource Management Plan, the BLM designation for this land is "Utility Corridor" and the VRM classification is Class III (USDI 2008, p. 67).

Designated Roadways

California Department of Transportation: Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that

are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California DOT for scenic highway approval, and receives the designation. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for them to become designated.

There are no designated state scenic highways in the area; however, both Interstate (I-) 8 and State Route (SR-) 94 are eligible state scenic highways.

Scenic Highways Element of the San Diego County General Plan (1986)

The purpose of the San Diego County General Plan Scenic Highway Element is to establish a Scenic Highway Program to protect and enhance the county's scenic, historic, and recreational resources within a network of scenic highway corridors. The Scenic Highway Element recommends establishing design guidelines for scenic corridors. The element contains a map of scenic highways and by-ways and a priority list. The map indicates those routes for which scenic highway corridors, official designation, and protection measures are to be established. The priority list describes each route within the Scenic Highway System and designates the route's priority for which scenic corridor planning and implementation are to be initiated. I-8 from SR-79 east to the Imperial County line and SR-94 from SR-125 to I-8 are listed as third priority San Diego County scenic routes.

The existing Boulevard Substation is approximately one mile from SR-94 and approximately 0.5 mile from I-8. The ECO Substation site is approximately 0.3 mile from I-8.

Old Highway 80

Old Highway 80 is a designated California State Historic Route. The state legislature granted this designation in 2006 in recognition of the roadway's "outstanding natural, cultural, historic, and scenic qualities." Designation included installing signage along the route. According to the legislation, however, this designation does not affect the "future planning or development of adjacent private and public properties" (Assembly Concurrent Resolution [ACR] 123, 2006). The 138 kV transmission line crosses Old Highway 80 between approximately Milepost (MP) 5 and MP 6.

Regional and Local Landscape Setting

Located near the U.S.-Mexico border in southeastern San Diego County, the Proposed Project lies within a desert landscape setting at an elevation between approximately 2,800 and 3,500 feet above sea level. Figure 4.1-1: Location of Photo Viewpoints and Scenic Routes shows the Proposed Project's regional location.

The Proposed Project area is situated in the physiographic "Lower California Province" as described by Fenneman (1931), amidst a series of mountain ranges that generally run north to south. The Jacumba Mountains and the In-Ko-Pah Mountains lie to the east and north, respectively. To the west is the Tecate Divide, a topographic feature that is also considered part of the Laguna Mountain Range. Peaks in these ranges rise to over 4,000 feet. A number of isolated mountains are also found in the area, including Boundary Peak and Jacumba Peak.

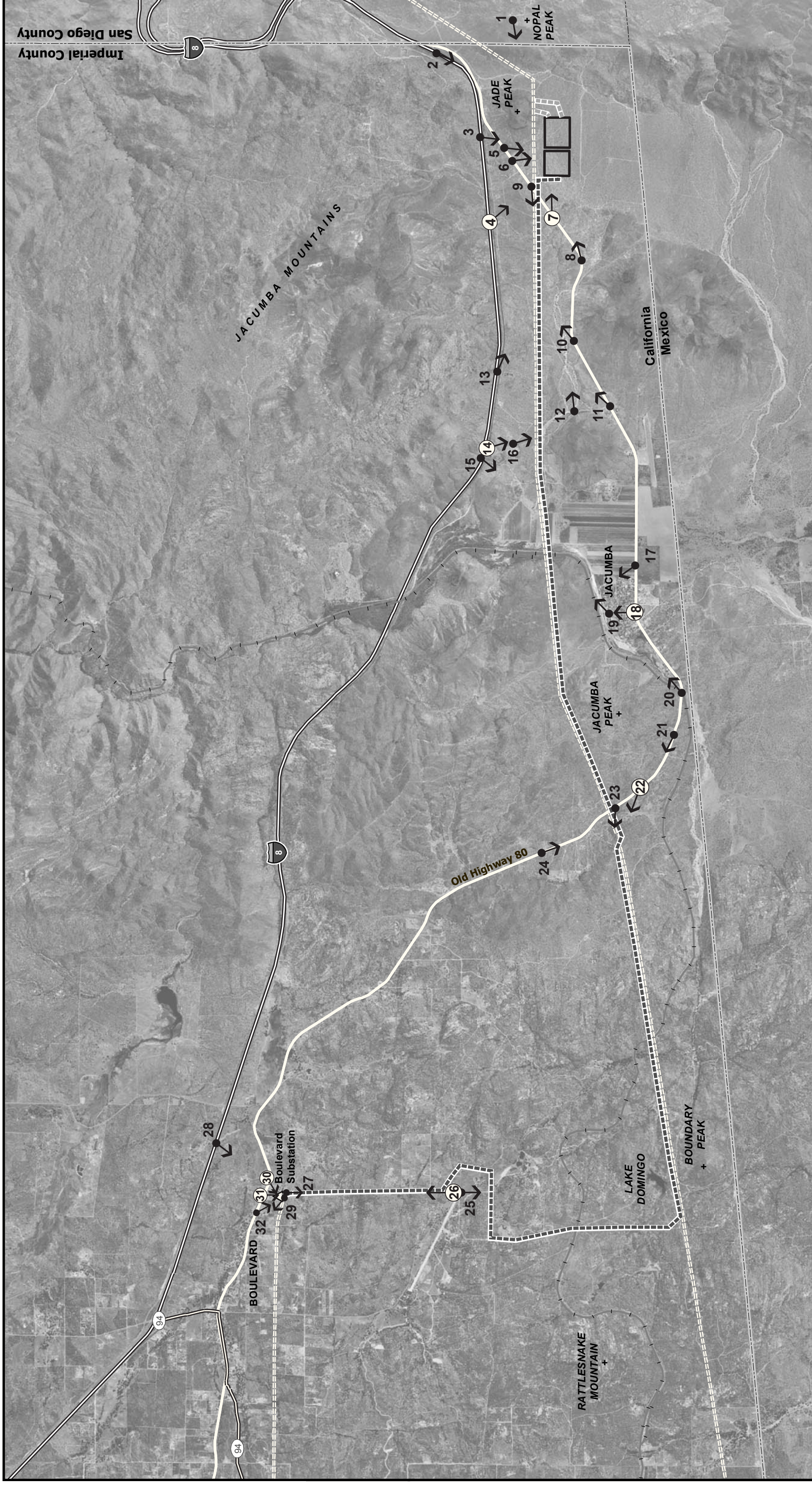


Figure 4.1-1: Location of Photo Viewpoints and Scenic Routes

- Proposed East County Substation
- Proposed 138kV Transmission Line
- Proposed SWPL Loop-In
- Eligible State Scenic Highway
- Historic Highway Route
- Railroad
- Existing Substation
- Existing Transmission Line
- Railroad
- 1 ●→ Photo Viewpoint
- ④→ Simulation Viewpoint

East County Substation Project



1:50,000



ENVIRONMENTAL VISION

Vegetation within most of the Proposed Project area is an irregular pattern of sparse desert scrub with bare soil and rocks visible in many places. Near the Boulevard Substation, vegetation also includes chamise chaparral and a small amount of oak woodland. Except for settled areas where trees and irrigated landscaping may be found, the landscape typically exhibits a limited range of muted brownish-grey colors with little seasonal variation. The general vicinity of the Proposed Project includes large areas of undeveloped land with some limited agricultural activity. The landscape can be said to display a stark beauty; it attracts recreational visitors, including hikers, who use the recreation trails on BLM-managed land and within the nearby Jacumba Wilderness, as well as cyclists who travel along Old Highway 80.

I-8 runs from the northwest to the southeast in the Proposed Project area, connecting San Diego to El Centro in Imperial County and beyond to Yuma, Arizona. Old Highway 80 runs somewhat parallel and to the south of I-8, which places it closer to the Proposed Project area. Before the interstate highway system was built, this two-lane road was the main east-west thoroughfare through the area. With populations of 600 and 1,200 respectively, Jacumba and Boulevard are communities situated along Old Highway 80. Smaller rural roads and private drives are also found in the Proposed Project area.

Existing utility features in the Proposed Project area include the SWPL lattice-towers, as well as wood utility poles and overhead power lines. Other contributing visual elements that define the Proposed Project's landscape setting in the rural portions of eastern San Diego County include cellular phone towers, railroad corridors, and agricultural facilities.

Project Visibility and Viewshed

The Proposed Project viewshed is defined as the general area from which the Proposed Project will be visible. Within this area, the existing Boulevard Substation, in addition to several existing overhead transmission lines, including the SWPL, are established landscape features. As seen from many places along the 138 kV transmission line, intervening landforms screen views of these existing facilities. The following section describes the visual setting and identifies locations from which the Proposed Project may be visible to the public, including roadways, public open space, and scattered rural residences.

For reference, it may be noted that visual details generally become apparent to the viewer when they are seen in the foreground, at distances of 0.25 to 0.5 mile or less (Sardon 1986). For the purpose of the Proposed Project visual analysis, the primary focus considered this foreground viewshed area, where visual details are apparent, and up to approximately one mile from the Proposed Project area, where change could be potentially noticeable. A set of four distinct sub-areas have been identified for the purpose of documenting and describing the foreground viewshed of the Proposed Project.

From much of the Proposed Project viewshed, it is anticipated that views of the Proposed Project will be partially or fully screened by landforms. As a result, the Proposed Project will not be visible in its entirety from any single viewing location.

The following provides a description of the visual character found within the Proposed Project area, beginning at the ECO Substation at the eastern end of the route. Attachment 4.1-A: Visual

Character Photographs includes a set of 32 photographs, organized by landscape sub-area, that document representative existing visual conditions.

Visual Character of the Project Area

East County Substation

The ECO Substation site and SWPL loop-in lie at the far eastern edge of San Diego County near Old Highway 80 in a valley just south of the Jacumba Mountains. In general, this is a sparsely populated desert area. The landscape characteristics include rugged topography and muted colors that are light in value.¹ Vegetation in the area is sparse and consists of low desert scrub with bare soil and visible boulders giving a medium-fine grain texture to the landscape. Rugged topography screens views of the ECO Substation site from many locations.

Situated at an elevation of approximately 3,200 feet above sea level, the ECO Substation site is located on the southwest side of Jade Peak, an isolated peak that rises approximately 500 feet above the valley floor. The site is approximately 0.5 mile west of the Jacumba Wilderness, a BLM-managed area protected by the California Desert Protection Act. Nearby peaks in the Jacumba Mountains rise to over 4,000 feet and include Whip Peak at 4,318 feet, Blue Angels Peak at 4,548 feet, and Nopal Peak at 4,274 feet. Photograph 1 in Attachment 4.1-A: Visual Character Photographs depicts a view from approximately one mile away, on a hiking trail located on Nopal Peak in the Jacumba Wilderness in Imperial County. As shown in this photograph, panoramic landscape vistas, including an unobstructed view of the ECO Substation site, are available from this remote trail location.

At its closest point to the roadway, the ECO Substation site lies within approximately 600 feet of Old Highway 80. It is also approximately 0.3 mile from I-8, an eligible state scenic highway. Photograph 4 in Attachment 4.1-A: Visual Character Photographs, taken from eastbound I-8, includes a view toward the ECO Substation site from I-8 (refer to Figure 4.1-1: Location of Photo Viewpoints and Scenic Routes). As one travels further east on I-8, views of the site are partially screened by Jade Peak. As shown in Photograph 3 in Attachment 4.1-A: Visual Character Photographs, the SWPL lattice towers appear behind the base of the hillside from this location.

Near the site, I-8 extends north through the narrow valley formed by Boulder Creek. Approximately 1.5 miles away is the southern edge of the Anza-Borrego Desert Park. Photograph 2 in Attachment 4.1-A: Visual Character Photographs indicates that from I-8 westbound near the In-Ko-Pah exit and from areas to the north, views toward the ECO Substation site are generally screened by the mountainous topography.

Views toward the ECO Substation site are also available from Old Highway 80. Photographs 5 through 8 in Attachment 4.1-A: Visual Character Photographs depict views toward the site from this historic roadway. Photograph 6 in Attachment 4.1-A: Visual Character Photographs shows a view toward the site at the location of the proposed site access road. As shown in Photograph 7 in Attachment 4.1-A: Visual Character Photographs, the existing SWPL lattice towers are visible along the skyline from some Old Highway 80 viewpoints. However, when seen against the

¹ “Value” means the relative darkness or lightness of the color.

landscape backdrop, the towers are barely discernable from the landscape background due to their color and transparent form.

One trailer residence lies approximately 0.4 mile north of the ECO Substation site on I-8. With respect to the ECO Substation, the vast majority of viewers will be travelers on nearby Old Highway 80 and I-8. Traveling at highway speeds, motorists' views will be brief in duration. Cyclists also travel along Old Highway 80 and will have views of the substation site that will be somewhat longer in duration. Recreational visitors, including hikers and off-road vehicle drivers who use the recreation trails on BLM-managed land and within the nearby Jacumba Wilderness will have distant views of the site that will be somewhat longer in duration.

138 kV Transmission Line

Southwest Powerlink Segment

An approximately 13.3-mile-long 138 kV transmission line will connect the proposed ECO Substation with the rebuilt Boulevard Substation. From the ECO Substation, the transmission line will extend westward for approximately 9.2 miles following the existing 500 kV SWPL route. The transmission line will then leave the SWPL route and turn north for approximately four miles until reaching its terminus at the Boulevard Substation.

In general, the landscape characteristics along this portion of the transmission line route are similar to the landscape around the ECO Substation site, with rugged topography in muted, light-value colors. Vegetation is sparse, with bare soil and rocks visible, producing the impression of a medium-grain texture. As the route approaches the west, the landscape color generally becomes darker, with denser, taller vegetation becoming more prevalent. Around settled areas, such as Jacumba, where irrigation is available, darker mature trees and shrubs are visible.

The area along the SWPL is generally undeveloped with limited areas of rural residential development. The existing SWPL consists of lattice towers that are, on average, approximately 135 feet in height. The SWPL runs approximately parallel to Old Highway 80 and lies within approximately 0.3 mile of the roadway for the first two miles of the 138 kV transmission line route. As shown in Photographs 9 through 12 in Attachment 4.1-A: Visual Character Photographs, the existing lattice towers are visible from Old Highway 80, particularly when they appear along the horizon against the sky.

For approximately 2.3 miles, the SWPL right-of-way (ROW) runs generally parallel to the south of I-8 at a distance of approximately 0.5 mile. Photographs 13 through 15 in Attachment 4.1-A: Visual Character Photographs depict views from I-8 toward the Proposed Project. As shown in Photographs 14 and 16 in Attachment 4.1-A: Visual Character Photographs, the existing SWPL lattice towers are visible from places along I-8 and nearby Carrizo Gorge Road, and appear prominent when seen against the sky. In other places where the towers appear against a landscape backdrop, such as in Photograph 13 in Attachment 4.1-A: Visual Character Photographs, the towers are less noticeable.

As described in Section 4.9 Land Use and Planning, the proposed 138 kV transmission line will cross public land managed by the BLM. West of the proposed ECO Substation, this area has no special use designation and is not an Area of Critical Environmental Concern.

The 138 kV transmission line will pass approximately 0.4 mile to the north of the unincorporated community of Jacumba. Photographs 17 through 20 in Attachment 4.1-A: Visual Character Photographs show several views from places within the town of Jacumba looking north toward the proposed 138 kV transmission line route. As shown in the photographs, some of the existing SWPL lattice towers appear along the skyline in north facing views. For example, Photograph 20 in Attachment 4.1-A: Visual Character Photographs, taken from Old Highway 80 west of town, includes existing lattice towers. However, this photograph demonstrates that when the towers appear against a landscape backdrop, they are less noticeable than when they are seen along the skyline. From places along Old Highway 80 east of Jacumba, Jacumba Peak partially screens views of the SWPL towers. This peak, which reaches over 3,000 feet in elevation, appears on the left side of Photographs 17 and 18 in Attachment 4.1-A: Visual Character Photographs. West of the community of Jacumba, the proposed 138 kV transmission line route crosses Old Highway 80 (Photograph 23).

Potential viewers of the 138 kV transmission line include residents of the town of Jacumba and other isolated rural residents. Residential views will typically be long in duration, but generally from distances of more than 0.25 mile away. Existing views encompass the lattice towers of the SWPL, existing distribution lines, and other built structures such as the railroad corridor and buildings. Travelers along I-8 and Old Highway 80 will also have brief views of the transmission line.

Tule Jim Lane Segment

At approximately MP 9.2, the 138 kV transmission line route heads north for approximately 1.5 miles. Boundary Peak, a 500-foot-tall cinder cone, and Lake Domingo, a San Diego County reservoir, are noteworthy landscape features in this area. The route then angles in an easterly direction, turning back north, and then west again before heading north, parallel to Tule Jim Lane for approximately 1.5 miles until reaching the Boulevard Substation rebuild site.

Similar to the eastern portion of the proposed 138 kV transmission line route, this area is a sparsely settled, rugged desert landscape. Because of denser, taller vegetation, the landscape color is darker in value than the landscape to the east. The texture is medium to coarse. Built landscape features, such as transmission poles, fences, and signs, are typical of the area.

At approximately MP 10, the route passes approximately one mile to the east of Rattlesnake Mountain—a 4,106 foot-tall peak on BLM-managed land. Photograph 26 in Attachment 4.1-A: Visual Character Photographs provides a view looking north along the proposed 138 kV transmission line route from Jewel Valley Road, which includes mature landscaping in the foreground and an existing wood-pole distribution line that runs generally parallel to the route.

For the most part, viewers in this area are rural residents. Fewer than 25 residences lie within 0.25 mile of this portion of the transmission line route. Resident views will be long in duration. This portion of the Proposed Project area is not traversed by major roadways, although it is crisscrossed by unpaved roads associated with rural residences. Access requires traversing private roadways, many of which are unpaved and posted with no trespassing signs. Therefore, this area is generally not accessible to the public.

Boulevard Substation Rebuild

The existing Boulevard Substation is located in the unincorporated town of Boulevard. The community is located in a rural desert setting in close proximity to Old Highway 80 and SR-94. A limited number of residences situated near Old Highway 80 have views toward the substation, although mature trees provide a measure of screening from some residences. Access to the substation is via a paved driveway from Old Highway 80.

Photographs 27 through 32 in Attachment 4.1-A: Visual Character Photographs show views toward the existing Boulevard Substation from the surrounding area. The existing Boulevard Substation is a relatively compact facility surrounded by a chain-link fence with slatting (Photograph 29 in Attachment 4.1-A: Visual Character Photographs). As shown in Photograph 31 in Attachment 4.1-A: Visual Character Photographs, the substation is located in close proximity to a residential property. The site of the Boulevard Substation rebuild is adjacent to the existing site to the east. This site currently includes a single-story residence and several outbuildings, all of which will be removed.

Photographs 30 through 32 in Attachment 4.1-A: Visual Character Photographs provide views toward the existing substation taken from Old Highway 80. Photograph 30 in Attachment 4.1-A: Visual Character Photographs also depicts a view toward the rebuilt Boulevard Substation site with the existing substation shown in the background. Visible amidst the dense vegetation at the right of the image is an existing building on the site. These photos show that numerous mature trees associated with nearby residences partially screen views of the site. From other nearby locations in the area, open views of the substation are available. However, because of its compact scale and the characteristics of the landscape setting, the existing facility is not particularly noticeable (see Photograph 30). Photographs 31 and 30 in Attachment 4.1-A: Visual Character Photographs include views from Old Highway 80 that indicate existing wood utility poles and overhead lines are established landscape features in this area. In general, the area around the substation exhibits a considerable degree of human disturbance.

Photograph 28 in Attachment 4.1-A: Visual Character Photographs, taken from I-8 looking southwest, demonstrates that the Boulevard Substation is not particularly visible from the roadway. The substation is generally not visible from more distant locations due to its visual characteristics in relationship to intervening landscape features and the landscape surroundings.

Viewers in the Boulevard Substation area include a few residents near the substation, travelers along Old Highway 80, and to a limited extent, those traveling along I-8. Approximately six residences lie within 0.25 mile of the substation. Residential views are typically long in duration. Travelers' views from Old Highway 80 are brief in duration, and travelers along I-8 have an extremely brief glimpse of the site.

White Star Communication Facility Rebuild

The existing White Star Communication Facility is situated along Tierra del Sol Road, approximately 2.5 miles southwest of the community of Manzanita. It is an existing communication facility for the County of San Diego and SDG&E. A California Department of Forestry Fire Station is located adjacent to the northern border of the communication facility and two single-family residences are located approximately 1,000 feet to the west. A mobile home

residence is located approximately 1,000 feet south of the facility, and the area to the east is undeveloped.

The SDG&E communication facility occupies a compact footprint that measures approximately 30 feet by 40 feet. Existing facilities located at this site include a beige-colored steel structure that is approximately 10 feet by 12 feet, and 10 feet tall; a generator unit enclosed by chain link security fencing; and three wood poles that range in height from approximately 35 feet to 90 feet. Existing vegetation at the site includes low scrub, several trees, and scattered shrubs.

The Proposed Project includes constructing a 75-foot-tall steel pole with a 6-foot-diameter microwave antenna mounted approximately 50 feet off the ground. The new pole will replace two existing wood poles. In addition, the existing storage structure will be replaced with a new pre-manufactured control and storage building of a similar color and size. No new lighting will be installed at the White Star Communication Facility, and construction activity will not result in the removal of existing mature vegetation.

As described above, the Proposed Project involves the installation of replacement structures that are generally similar in scale and in appearance to the existing White Star Communication Facility structures. These changes represent a minor incremental visual effect. Because the proposed changes to existing facilities would be minor and not particularly noticeable to the public and because this facility is generally located away from sensitive visual receptors, further analysis of the minor incremental visual effects associated with the White Star Communication Facility is not warranted.

4.1.3 Impacts

Physical characteristics of the Proposed Project, including the conceptual landscape plans for the two substation sites, are described briefly, followed by information documenting the visual simulation methods and assumptions. A description and evaluation of the visual changes that are portrayed in the set of before and after visual simulation images is also presented. As outlined in this discussion, the Proposed Project will not have a substantial adverse effect on existing views and landscape character in the Project area with the implementation of APMs. The construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations pertaining to aesthetics.

Significance Criteria

The significance criteria for assessing the impacts to aesthetics are based on the CEQA Environmental Checklist. According to the CEQA checklist, a project would cause a potentially significant impact if it would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

In applying these criteria to determine significance, the extent of the Proposed Project's visibility from sensitive viewing locations, the degree to which the various Proposed Project elements would contrast with or be integrated into the existing landscape, the extent of change in the landscape's composition and character, and the number and sensitivity of viewers were taken into account. Project conformance with public policies regarding visual quality was also considered.

As part of the aesthetic impact evaluation, visual simulations were produced using computer modeling and rendering techniques. This section includes a description of the technical methods used for producing the computer-generated simulation images.

Physical Characteristics of the Project

The Proposed Project involves the construction of a new substation in an undeveloped area, the removal of an existing substation and its relocation to a disturbed and previously developed site in an area near scattered rural residences, and a 13.3-mile-long transmission line supported on steel poles. The Proposed Project also includes rebuilding approximately 1.5 miles of existing distribution line along Tule Jim Lane. Chapter 3 – Project Description provides a detailed description of the Proposed Project, including drawings of the substation configurations.

In addition, the Proposed Project involves a short loop, referred to as the SWPL loop-in, to connect the existing 500 kV SWPL transmission line to the new substation. The SWPL loop-in construction entails the removal of one existing tower and installation of four new steel towers east of the ECO Substation. Because these elements appear within views of the ECO Substation, the potential visual impact associated with the SWPL loop-in is addressed in the evaluation of the ECO Substation and is not discussed separately.

The Proposed Project also involves rebuilding SDG&E's existing communication infrastructure at the White Star Communication Facility site. Because two poles will be replaced with one and the existing equipment enclosure will be replaced with a new one, the changes will result in minor visual effects that will not be noticeable to the public. Therefore, this aspect of the Proposed Project is not addressed further in this analysis.

Conceptual Landscape Plans

Landscaping and revegetation are proposed for both the ECO Substation and Boulevard Substation rebuild sites.

East County Substation

Figure 4.1-2: East County Substation Landscape Overview and Figure 4.1-3: East County Substation Landscape Concept Plan present a conceptual landscape plan for the ECO Substation. The landscape plan includes reestablishing native vegetation on graded slopes of the substation pad and new roadway. Figure 4.1-3: East County Substation Landscape Concept Plan also presents a conceptual section drawing of roadways and conceptual sections of cut slopes and fill slopes on the site.

The landscape plan for the ECO Substation involves the installation of native plant material to replicate the vegetation pattern seen in the surrounding landscape setting. Landscaping will

restore the appearance of disturbed slopes to resemble the original desert landscape. In keeping with the existing landscape character, proposed planting will allow for areas of exposed soil and rock to be visible. In addition, larger shrubs and small trees will partially screen views of lower elements of the substation and visually integrate the structures' appearance with the desert landscape.

Suggested landscape species are derived from the plant species inventories described in Section 4.4 Biological Resources, with the additional consideration of their general availability at commercial nurseries. To the extent practical, in areas where construction requires vegetation clearing, mature, healthy agaves and other succulents found on site will be transplanted into containers and retained with root balls intact for later transplanting onto slopes and disturbed soil. Boulders and rocks ranging in size from 12 inches to 24 inches that have been cleared from the site will also be retained for placement on disturbed slopes.

Irrigation will be provided during the two years following landscape installation in order to ensure the establishment of the proposed plant material. Only small trees and shrubs that reach a maximum height of 25 feet will be planted beneath transmission lines to allow for clearance. Additionally, shrubs and smaller trees will not be planted within 20 feet of the perimeter fences. All planting will be consistent with SDG&E operational requirements for landscaping in proximity to electric transmission facilities.

Boulevard Substation Rebuild

Figure 4.1-4: Boulevard Substation Landscape Concept Plan presents a preliminary conceptual landscape plan for the Boulevard Substation rebuild. The landscape plan calls for the installation of large shrubs and trees along the north side of the site. A combination of deciduous and evergreen small trees/large shrubs will be installed along the fenceline and the 50-foot-wide easement on the east side of the site. This planting, combined with smaller shrubs and seeded annuals and grasses, will partially screen views of the substation from Old Highway 80. The project landscaping will also integrate the appearance of the facility with the landscape setting. Landscaping at the Boulevard Substation site is intended to appear naturalistic and generally similar to nearby vegetation patterns. Existing mature trees to the west and south of the substation will provide additional screening. Seed mixture application will also provide a measure of erosion control. Suggested plant species include trees and shrubs found in the area as part of the biological inventory and those that are generally available from commercial nurseries.

As with the ECO Substation, landscaping irrigation will be provided for the first two years after installation. Only smaller trees and shrubs that reach a maximum height of 25 feet will be installed under transmission lines or along the 50-foot-wide easement on the east side of the site to allow for clearance. Shrubs and smaller trees will not be planted within 10 feet of the perimeter fencing. All planting will be consistent with SDG&E operational requirements for landscaping in proximity to electric transmission facilities.

Visual Simulations

As part of the Proposed Project visual resources analysis, Environmental Vision produced a set of visual simulations to illustrate before and after visual conditions in the Proposed Project area. The simulations illustrate the location, scale, and appearance of the Proposed Project as seen



Site Landscape Character



Desert Agave
Agave deserti



Hedgehog Cactus
Echinocereus species



Cholla
Opuntia species



California Juniper
Juniperus californica



Jojoba
Simmondsia chinensis



Water Jacket
Lycium andersonii



Mormon Tea
Ephedra californica



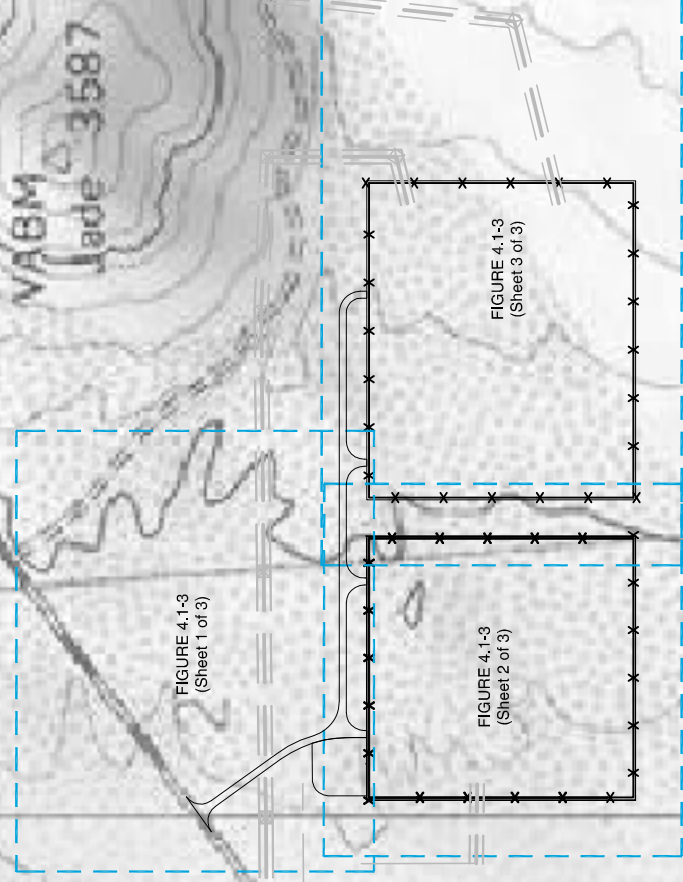
Ericameria species

Landscape Concept

The landscape concept for the ECO Substation involves the installation of native plant material to replicate the vegetation pattern seen in the surrounding landscape setting. Landscaping will restore the appearance of disturbed slopes to resemble the original desert landscape. In keeping with the existing landscape character, proposed planting will allow for areas of exposed soil and rock to be visible. In addition, small trees and larger shrubs will partially screen lower elements of the substation and thus visually integrate the structures' appearance with the desert landscape.

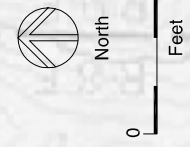
NOTES:

1. In areas where construction requires vegetation cleaning, mature, healthy agaves and other succulents will be transplanted into containers and retained with rootballs intact for later transplanting onto slopes and disturbed soil. Prior to construction, a qualified field biologist will identify and tag specimens to be transplanted.
2. In areas where construction requires cleaning of rocks and boulders (approximately 12"-24" in diameter), these materials shall be stockpiled and placed on disturbed slopes.
3. All planting will be consistent with SDGE's operational requirements for landscaping in proximity to electric transmission facilities.
4. A licensed landscape contractor will design and install an irrigation system using a reclaimed or other non-potable water source. System to be operated by a timer or moisture-sensing device. Exact location of irrigation controller device and water line connections to be approved by engineer prior to installation. Irrigation system will be operational for a minimum two-year period while new plant material becomes established. Alternatively, landscaping will be truck-watered during establishment period.
5. Owner will retain a landscape contractor to provide periodic maintenance including removal and replacement of dead plant material, upkeep of irrigation system, and periodic evaluation of site landscaping to determine additional landscaping and maintenance needs.



Interstate 8

2040 000 FEET



**FIGURE 4.1-2
EAST COUNTY SUBSTATION
LANDSCAPE OVERVIEW**
East County Substation Project

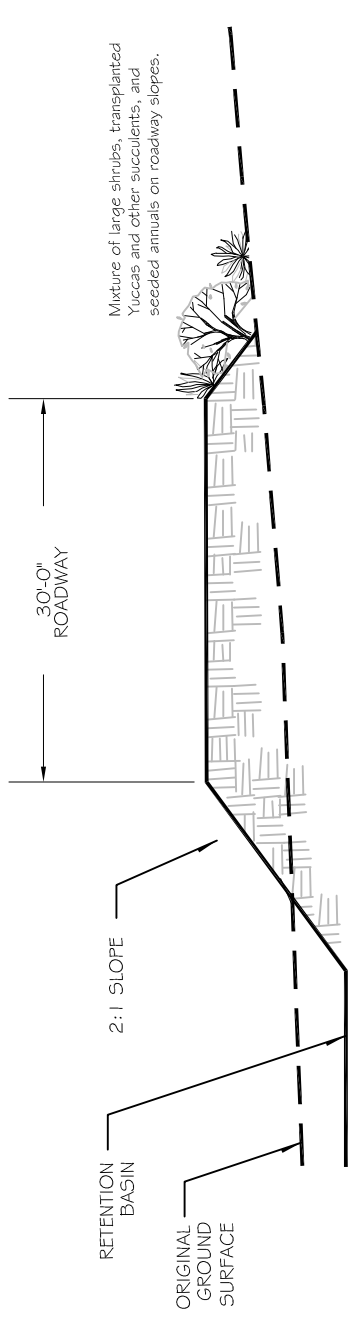
PLANT PALETTE LEGEND

SYMBOL	TYPE OF PLANT	APPROXIMATE QUANTITY	SUGGESTED SPECIES	CONTAINER SIZE	APPROX. MAXIMUM HEIGHT/SPREAD
	Evergreen small tree	25	Acacia greggii	10 Gallon	22'/22' 15'/20'
	Evergreen large shrub or small tree	130	Juniperus californica or Simmondsia chinensis	10 Gallon	15'/15' 7'/7'
	Mixed small evergreen and deciduous shrubs	189	Ephedra californica Encamena brachylepis Lycium andersonii or Yucca schidigera	6"	5'/5' 3'/3' 6'/6' 6'/6'
	Seed mixture-desert annuals and grasses	4.25 acres	Amsinckia tessellata Lasthenia californica Phacelia distans or Poa secunda	N.A.	2'/2' 10'/10" 2'/2' 18'/18"
	Boulders from site				

* Height/spread based upon:

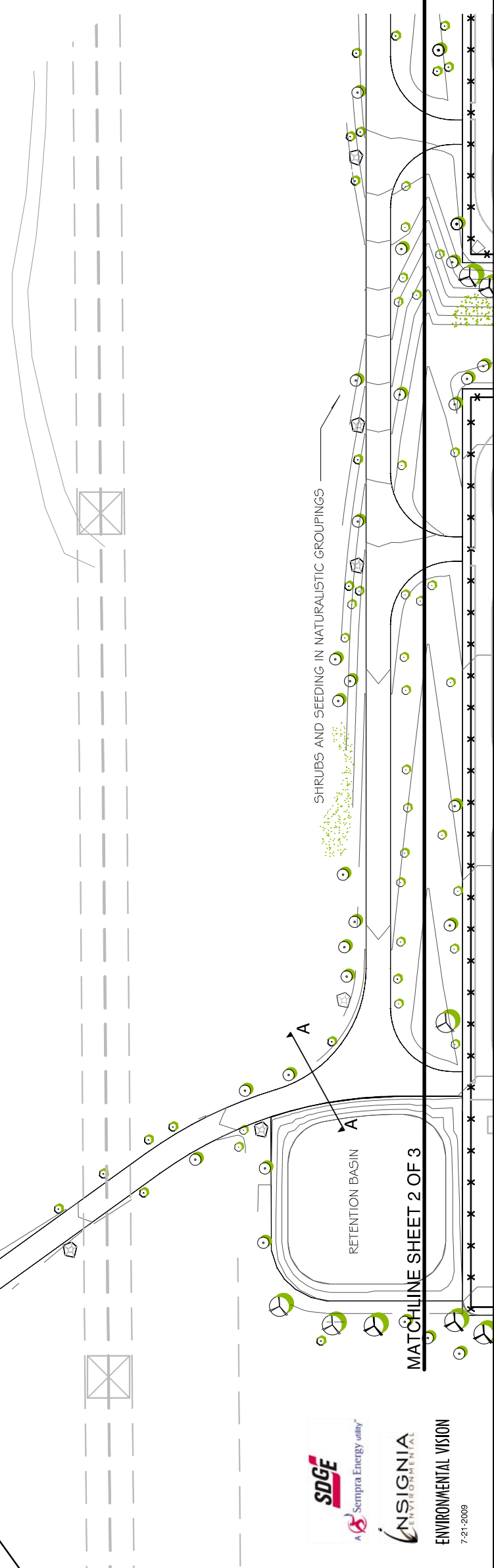
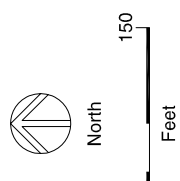
Reimer, Jeffrey L. and W. Mark. "SelectTree: A Tree Selection Guide." <http://selecttree.calpoly.edu/>

Lightner, James. San Diego County Native Plants. San Diego Flora. 2006

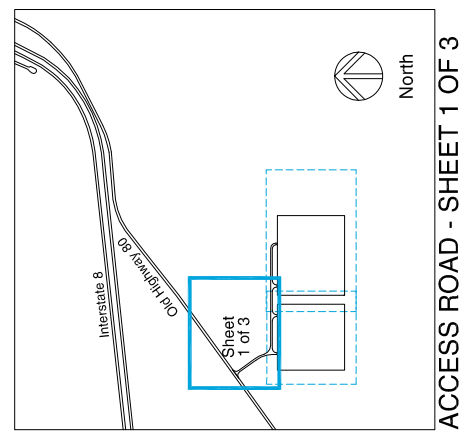


SECTION A-A ACCESS ROAD SLOPE
Not to Scale

PRELIMINARY CONCEPT
Subject to change based on final engineering design.

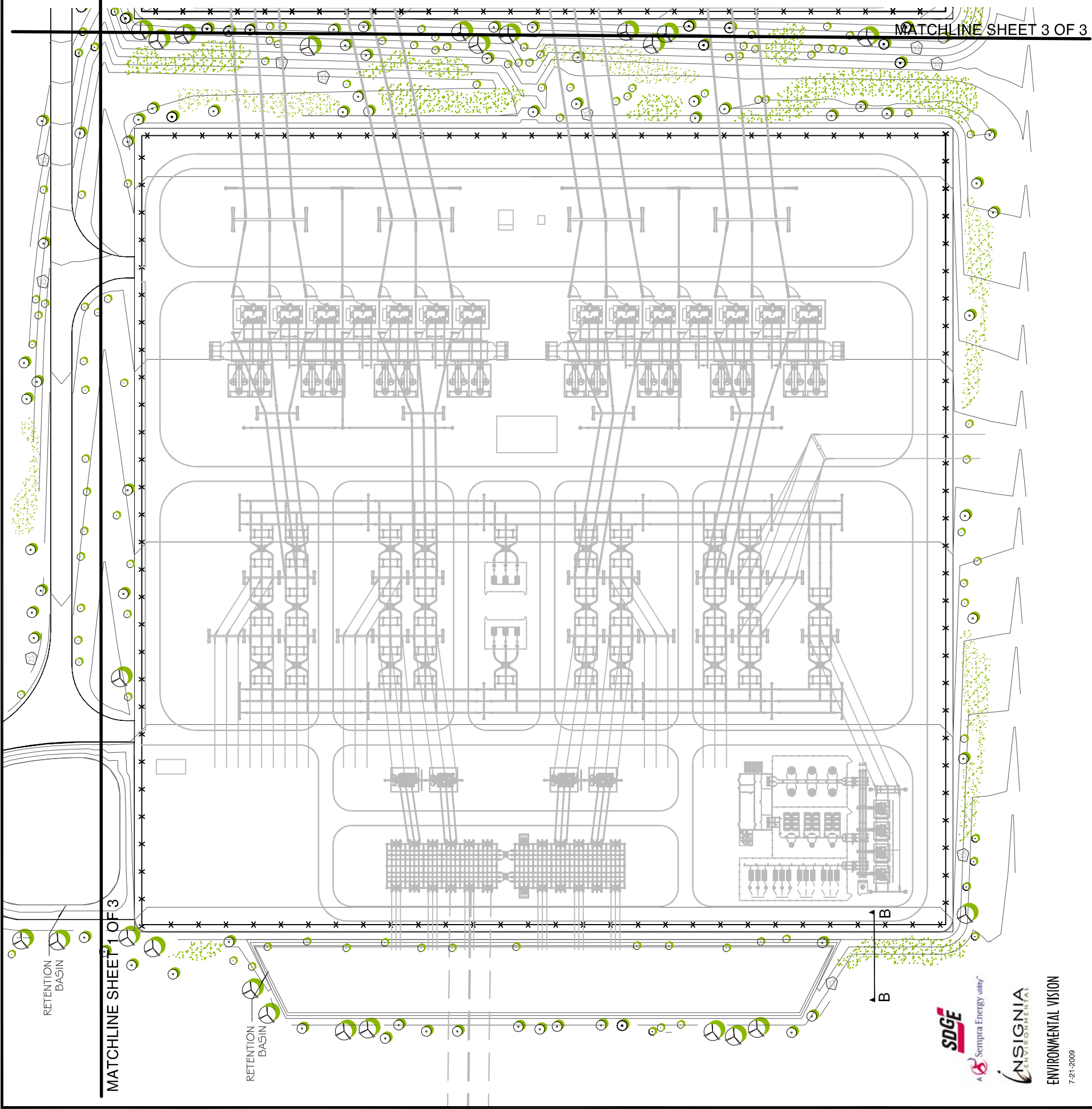


For notes see Figure 4.1-2



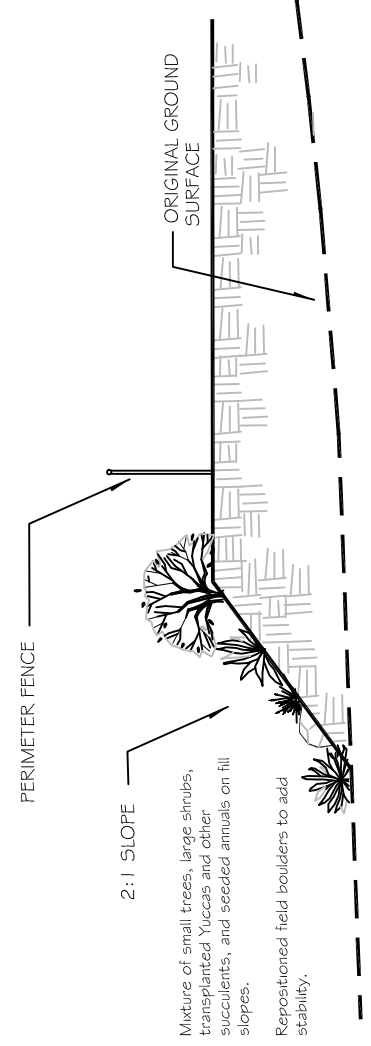
ACCESS ROAD - SHEET 1 OF 3

FIGURE 4.1-3
EAST COUNTY SUBSTATION
LANDSCAPE CONCEPT PLAN
East County Substation Project



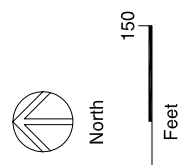
MATCHLINE SHEET 1 OF 3

MATCHLINE SHEET 3 OF 3

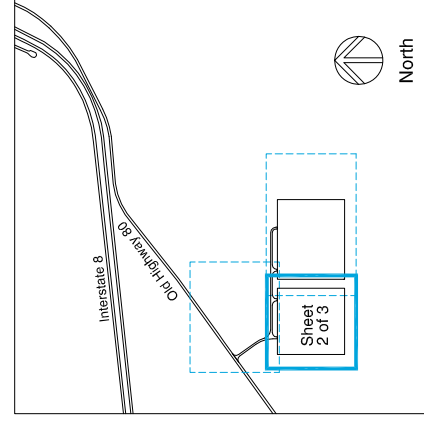


SECTION B-B TYPICAL FILL SLOPE
Not To Scale

PRELIMINARY CONCEPT
Subject to change based on
final engineering design.

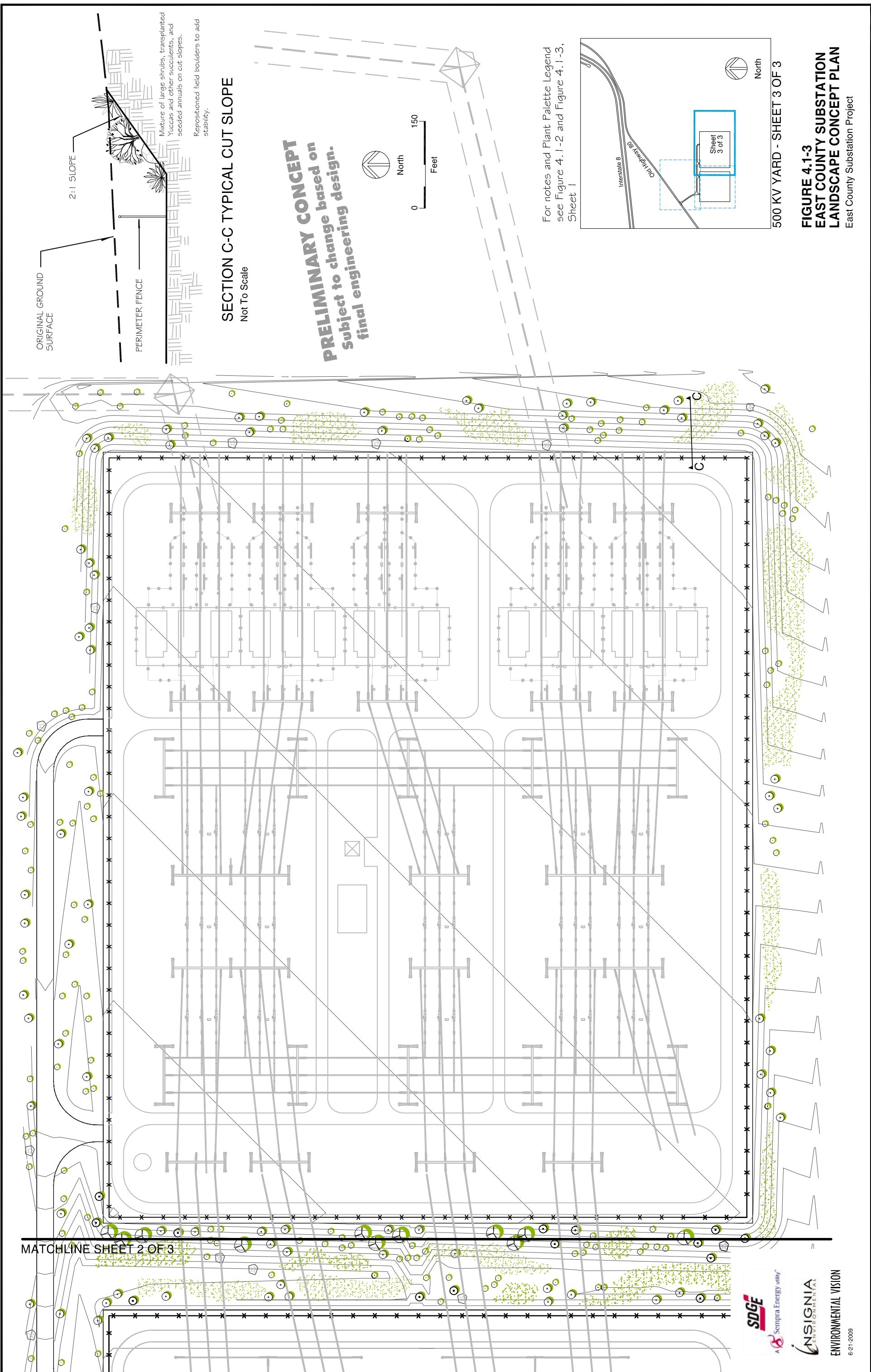


For notes and Plant Palette Legend see Figure 4.1-2 and Figure 4.1-3, Sheet 1.



230/138 KV YARD - SHEET 2 OF 3

FIGURE 4.1-3
EAST COUNTY SUBSTATION
LANDSCAPE CONCEPT PLAN
East County Substation Project



ORIGINAL GROUND SURFACE

2:1 SLOPE

PERIMETER FENCE

Mixture of large shrubs, transplanted Yuccas and other succulents, and seeded annuals on cut slopes.
Repositioned field boulders to add stability.

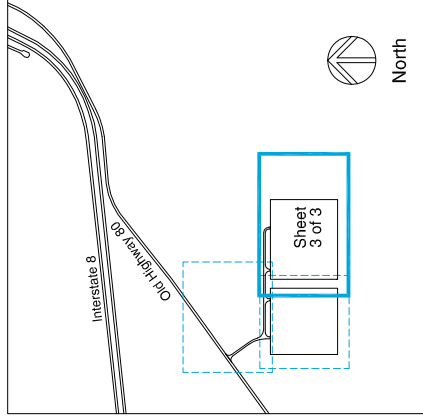
SECTION C-C TYPICAL CUT SLOPE
Not To Scale

PRELIMINARY CONCEPT
Subject to change based on final engineering design.



0 150
Feet

For notes and Plant Palette Legend see Figure 4.1-2 and Figure 4.1-3, Sheet 1



500 KV YARD - SHEET 3 OF 3

FIGURE 4.1-3
EAST COUNTY SUBSTATION
LANDSCAPE CONCEPT PLAN
East County Substation Project

MATCHLINE SHEET 2 OF 3

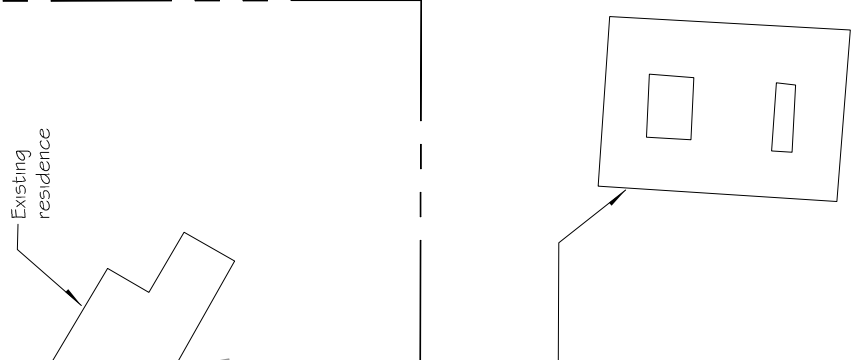
Existing mature trees along Highway 80 to remain.

PLANT PALETTE LEGEND

SYMBOL	TYPE OF PLANT	APPROXIMATE QUANTITY	SUGGESTED SPECIES	CONTAINER SIZE	MAXIMUM HEIGHT/SPREAD *
	Broad leaf evergreen tree	18	Quercus agrifolia	15 Gallon	65'/65'
	Large shrub or small tree	55	Quercus cornelius-mullen Prosopis glandulosa torreyana Arctostaphylos pungens or Rhus ovata	15 Gallon 10 Gallon	15'/equal 25'/equal 6-12'/equal 8-12'/equal
	Mixed small evergreen and deciduous shrubs	60	Ceanothus greggii or Encarnia linearifolia	6"	6'/equal 4-6'/equal
	Seed mixture desert annuals and grasses	0.25 Acre	Descurainia pinnata Lathyrus californica or Phacelia distans	N.A.	18'/18" 4-10'/equal 2'/equal

* Estimates based on information contained in: Reimer, Jeffrey L. and W. Mark. "SelectTree: A Tree Selection Guide." <http://selecttree.calpoly.edu/>
Lightner, James. San Diego County Native Plants. San Diego Flora. 2006

Existing residence



Existing Boulevard Substation to be demolished.

PRELIMINARY CONCEPT
Subject to change based on final engineering design.



SECTION A-A
Not to Scale

LANDSCAPE CONCEPT:

The landscape plan calls for the installation of trees and shrubs along the north side of the site. A combination of deciduous and evergreen small trees/large shrubs will also be installed along the fence line and the 50-foot-wide easement on the east side of the site. This planting combined with smaller shrubs and seeded annuals and grasses will partially screen views of the substation from Old Highway 80. The project landscaping will also integrate the appearance of the facility with the existing landscape setting. Landscaping at the Boulevard Substation site is intended to appear naturalistic and generally similar to nearby vegetation patterns. Existing mature trees to the west and south of the substation will provide additional visual screening. Seed mixture application will also provide a measure of erosion control.

NOTES:

- Final landscape layout will be determined in conjunction with survey data and final engineering design.
- Plant material to be installed below existing future overhead conductors and easements will be low growing to allow for clearance. All planting shall be consistent with SDG&E's operational requirements for landscaping in proximity to electric transmission facilities.
- Landscaping contractor will design and install an irrigation system using a reclaimed or other non-potable water source. System to be operated by a timer or moisture-sensing device. Exact location of controller device and water line connections to be approved by engineer prior to installation. Irrigation system will be operational for a minimum two-year period while new plant material becomes established. Alternatively, landscaping will be truck watered during establishment period.
- Owner will retain a licensed landscape contractor to provide periodic maintenance including removal and replacement of dead plant material, upkeep of irrigation system, and periodic evaluation of site landscaping to determine additional landscaping and maintenance needs.

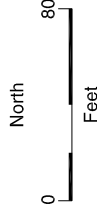


FIGURE 4.1-4
BOULEVARD SUBSTATION
LANDSCAPE CONCEPT PLAN
East County Substation Project

from representative public viewpoints. The visual study employed photographs taken in April and May 2008, using a digital single-lens reflex camera. Except for Viewpoint 7, all of the simulation photos were shot with a 50-millimeter equivalent lens, which represents a horizontal view angle of 40 degrees. The Viewpoint 7 visual simulation photograph shows a slightly wider view angle in order to show the Proposed Project within its landscape context.

Existing geographic information system (GIS) and engineering data, and digital aerial photographs supplied by SDG&E engineers provided the basis for developing an initial digital model. A three-dimensional model of the proposed transmission poles was developed using design and GIS data supplied by SDG&E. The three-dimensional computer model of the proposed transmission facility improvements was combined with the digital site model to produce a complete computer model of the Proposed Project. A set of computer-generated perspective plots was then produced to represent the selected viewpoints.

For each of the simulation viewpoints, viewer location was digitized from topographic maps using five feet as the assumed eye level. Computer wireframe perspective plots were overlain on photographs to verify scale and viewpoint location. Digital visual simulation images were then produced based on computer renderings of the three-dimensional model combined with digital versions of the selected site photographs.

Existing views and computer-generated visual simulations that portray the location, scale, and appearance of the Proposed Project are included in Attachment 4.1-B: Visual Simulations. The simulation photograph viewpoint locations are shown in Figure 4.1-1: Location of Photo Viewpoints and Scenic Routes. Table 4.1-1: Summary of Simulation Views summarizes the seven simulation views and identifies the particular Proposed Project component that is portrayed in each of the views.

Table 4.1-1: Summary of Simulation Views

Location	Project Feature	Viewpoint # (See Figure 4.1-1)
I-8 eastbound looking southeast toward the ECO Substation site	ECO Substation	4
Old Highway 80 looking east toward the ECO Substation site	ECO Substation	7
I-8 eastbound at Jacumba exit	138 kV Transmission Line	14
Old Highway 80 in Jacumba	138 kV Transmission Line	18
Old Highway 80 looking northwest	138 kV Transmission Line	22
Jewel Valley Road looking north	138 kV Transmission Line	26
Old Highway 80 looking southwest toward the Boulevard Substation rebuild site	Boulevard Substation Rebuild	30

For each selected substation viewpoint, two simulation images are presented to show the Proposed Project with and without the proposed landscaping. The images depict native shrub and tree species shown at approximately eight years of maturity. It is anticipated that the plants will reach greater heights at full maturity.

The following discussion contains an evaluation of the potential visual impacts associated with these changes. APMs designed to reduce the Proposed Project's potential visual impacts, are described in Section 4.1.4 Applicant-Proposed Measures.

East County Substation

Attachment 4.1-B: Visual Simulations – Viewpoint 4 provides a before and an after view of the Proposed Project from I-8 looking southeast toward the ECO Substation site from a distance of approximately 0.5 mile away. A small part of Jade Peak, situated approximately one mile away, appears on the left side of this view against the backdrop of the Jacumba Mountains. The existing view also includes several wood utility poles, seen in the foreground along an unpaved road. Almost imperceptible in this view are the existing SWPL lattice transmission towers with the nearest tower barely visible above the wood pole on the right side of the photograph. Other, more distant towers are essentially invisible against the landscape backdrop. This vantage point is similar in elevation to the substation site.

The proposed ECO Substation appears near the center and right side of the simulation view. Portions of the bus structures at the 500 and 230 kV yards can be seen along the base of the mountains. These new vertical structures appear somewhat transparent and are not particularly noticeable because they blend into the desert landscape and the Jacumba Mountains in the backdrop. The approximately 40-foot-tall embankment situated between the two substation pads appears as a lighter-colored horizontal band near the center of the view. To the left, a portion of the grading at the southeast of the site is also visible due to the color and texture contrast with the surrounding landscape. The new water tank and the 135-foot-tall communication tower are not particularly noticeable within the overall context of the substation. In addition, toward the right edge of the view, small portions of the relatively low embankments along the west and north edges of the site are slightly discernable. In sum, from this location along I-8, the substation will be somewhat noticeable along the base of the mountains; however, the facility will not be visually prominent because the new structures will generally blend into the landscape backdrop.

Attachment 4.1-B: Visual Simulations – Viewpoint 4 shows the Proposed Project with landscaping at approximately eight years of maturity after installation. The simulation demonstrates that with installation of native vegetation, graded slopes appear similar in texture to the surrounding undisturbed landscape. In addition, the plant materials interrupt the horizontal line of the perimeter fence around the upper level of the substation, thus diminishing its contrast with the surrounding landscape. In these respects, the landscaping effectively reduces the visual contrast and general visibility of the graded slopes and the perimeter fence.

Attachment 4.1-B: Visual Simulations – Viewpoint 7 portrays a before and an after view of the ECO Substation from Old Highway 80, approximately 0.25 mile from the site. The view includes the conical shaped Jade Peak on the left with the Jacumba Mountains to the right, extending across to the background. An existing SWPL lattice tower appears along the sky at

the far left edge. Closer to the center of this view, other existing lattice towers can barely be seen. The simulation portrays a relatively close-range view of the substation. The viewpoint is at a similar elevation to the substation, and intervening vegetation and landform obscure portions of the gravel pads and graded area. A portion of the embankment between the two pads is somewhat visible near the center and right side of the simulation view. The substation structures are also visible, but are not particularly noticeable against the backdrop of the Jacumba Mountains. Overall, while discernible, the new substation is not a prominent element within the desert landscape setting.

Attachment 4.1-B: Visual Simulations – Viewpoint 7 also shows the Proposed Project with landscaping at approximately eight years of maturity after installation. The simulation demonstrates that the installation of native vegetation would reduce visual contrast between the texture and color of graded slopes and the surrounding natural landscape. In addition, the landscaping provides intervals of texture and screening that interrupt the horizontal line of the perimeter fence around the upper level of the substation, thus making it less noticeable.

138 kV Transmission Line

Attachment 4.1-B: Visual Simulations – Viewpoint 14 presents a before and an after view from eastbound I-8 at the Jacumba exit. In this view, Carrizo Gorge Road can be seen at the right of the photograph curving towards the southeast. Just to the left of this road, one of the existing SWPL lattice towers appears partially along the skyline. On the left side of the photo, a second tower is almost invisible against the sky. The proposed 138 kV transmission line route is approximately 0.5 mile away from the viewpoint location to the west. The simulation image shows three new steel poles at approximately the same distance away as the existing SWPL transmission line; all of the new poles appear against a landscape backdrop. Although the light color and form of the new poles cause them to appear somewhat more noticeable against the landscape backdrop than the SWPL towers, the addition of a new transmission line to this landscape setting represents an incremental change that does not substantially alter the overall existing visual character.

Attachment 4.1-B: Visual Simulations – Viewpoint 18 presents a before and an after view from Old Highway 80 in Jacumba. This photograph, taken from a residential area, shows a considerable amount of existing vegetation, including trees located on residential properties. In the background, Jacumba Peak appears prominently on the left and wood distribution poles and a metal light standard are prominent vertical elements in the foreground. Two existing SWPL lattice towers can be seen along the skyline on the ridgeline approximately 0.75 mile away. Jacumba Peak partially obscures the tower on the left side of the view. The visual simulation shows three new transmission poles on the ridgeline near the center and left side of the view. Located more than 0.5 mile away, these new poles are barely visible. A fourth pole, partially screened by vegetation, is barely perceptible at the right edge of the view. The simulation demonstrates that the Proposed Project represents a minor incremental change that does not substantially alter the existing visual character of this landscape setting.

Attachment 4.1-B: Visual Simulations – Viewpoint 22 portrays a before and an after view from Old Highway 80 looking northwest toward the existing SWPL transmission line near the community of Jacumba. Two existing SWPL lattice towers are visible along the skyline near the

center of the image approximately 0.5 mile away. Where the towers appear against the landscape backdrop, they are nearly invisible. The visual simulation shows two new steel poles near the center of the view, where the Proposed Project crosses under the SWPL transmission line. Although their lighter color appears in slight contrast with the darker background, because of their slender form, they are barely visible when they appear against the landscape backdrop at this distance of just over a 0.5 mile away. In addition, two new poles are visible near the center of the view along the skyline. When seen along the skyline, these poles appear less prominent than the SWPL lattice towers due to their lighter color and slender profile.

Attachment 4.1-B: Visual Simulations – Viewpoint 26 shows a before and an after view from Jewel Valley Road looking north. In this view, Jewel Valley Road turns west (left) and the unpaved Tule Jim Lane continues into the distance at the center of the photograph. A wood pole distribution line appears along the right side of the existing road and a white painted wood fence runs along the right-hand side (east) of the road. The fence and unpaved portion of the road are built elements, which appear in sharp contrast to the darker background vegetation. In the background, other wood distribution poles are visible as are the roofs of houses and other structures. A private airstrip lies to the west, out of this view. The visual simulation shows replacement wood distribution poles and new steel transmission poles on the left side of Tule Jim Lane. The nearest wood replacement pole is approximately 35 feet tall and located approximately 300 feet away from this vantage point, while the closest new steel pole is approximately 110 feet tall and located approximately 800 feet away. The new steel transmission poles are noticeably taller, making them somewhat more prominent. However, to some extent their level of visibility is attenuated because existing vegetation will partially screen lower portions of the new poles. In addition, their relatively light color tends to blend in with the background color of the sky. The height of the wood replacement distribution poles is similar to the existing wood poles currently seen at this location. Initially, the color of the wood replacement poles may be noticeably darker. It is expected that the wood will weather to become lighter, which in turn will reduce their level of visual contrast and overall visibility. To a degree, the form of the new and replacement poles will contrast with the pattern of the existing surrounding landscape. Given the presence of the existing utility structures in this area, these changes are incremental and do not result in a substantial alteration of the existing visual setting.

Boulevard Substation Rebuild

Attachment 4.1-B: Visual Simulations – Viewpoint 30 presents a before and an after view of the Boulevard Substation rebuild from Old Highway 80, approximately 500 feet east of the Proposed Project. This view includes portions of the existing Boulevard Substation as well as several wood utility poles. These structures are visible on the horizon against the skyline. The visual simulation shows a close range view of the rebuilt Boulevard Substation near the center and right side of the view. The simulation also shows the removal of an existing residence, as well as the removal of the existing Boulevard Substation structures. From this vantage point along Old Highway 80, upper portions of the new low profile substation and two new transmission poles appear along the skyline. In addition, a section of new chain-link fence can be seen along the skyline above a small, lighter colored, area of graded slope that is visible on the right side of the view. Overall, the form and general appearance of the new facility will be similar to the existing transmission structures; however, because it has a larger footprint and is situated closer to the roadway, the new substation appears somewhat more noticeable. In addition, the 140-foot-tall

steel cable riser pole located near the left side of the simulation, is a visually prominent vertical element.

Attachment 4.1-B: Visual Simulations – Viewpoint 30 shows the substation with proposed landscaping at approximately eight years of maturity. This image portrays the Proposed Project with the installation of clusters of oak trees and native shrubs on the north side of the site, as well as a combination of deciduous and evergreen small trees and large shrubs installed along the fenceline and the 50-foot-wide easement on the east side of the site. The simulation demonstrates that the Proposed Project landscaping will provide a substantial level of visual screening. While a few taller elements of the facility, including the new transmission poles, are visible above clusters of oaks, small trees, and shrubs, most of the substation facility is partially or fully screened by vegetation. In addition, the project landscaping will be effective in integrating the substation's appearance with its surrounding landscape.

This visual simulation also portrays the appearance of the Boulevard Substation with the incorporation of APM-AES-03, a measure that relocates the 140-foot-tall steel cable riser pole about 650 feet to the south and further from Old Highway 80. As shown in the simulation, the relocated pole will fall outside of this particular photographic view. Both the proposed and the relocated cable riser poles are shown in the Viewpoint 31 simulation images in Attachment 4.1-B: Visual Simulations.

Attachment 4.1-B: Visual Simulations – Viewpoint 31 presents a before and an after view of the Boulevard Substation rebuild looking south down the existing substation access road from Old Highway 80. This viewpoint is about 300 feet north of the proposed rebuilt substation. From this location, portions of the existing Boulevard Substation are visible to the right of the access road and various utility poles appear in the foreground and middleground against the skyline. An adjacent residence is also partially visible to the right of this unpaved road. On the left side of the access road, a light colored house, partially screened by dense vegetation occupies a portion of the substation rebuild site. The visual simulation shows a close range view of the rebuilt Boulevard Substation on the left side of the view. The simulation also shows the removal of an existing residence located on the rebuild site and the removal of the existing Boulevard Substation structures. Because they appear against a landscape backdrop, the new low-profile substation structures are not particularly prominent. Lower portions of the two new 65-foot-tall transmission poles located to the right of the substation also appear against a landscape backdrop with the upper parts extending into the sky. Within the context of the existing landscape setting, these new poles are not particularly noticeable in the view. However, the new 140-foot-tall steel cable riser pole seen just to the right of the access road appears visually prominent against the skyline.

Attachment 4.1-B: Visual Simulations – Viewpoint 31 shows the substation with proposed landscaping at approximately eight years of maturity. This image portrays the Proposed Project with the installation of clusters of oak trees and native shrubs on the north side of the site. The simulation demonstrates that the Proposed Project landscaping will effectively screen views of the substation. The simulation also shows that the Proposed Project landscaping will improve the visual integration of the new facility with the landscape setting. The Viewpoint 31 visual simulation also portrays the appearance of the Boulevard Substation with the 140-foot-tall steel cable riser pole relocated about 650 feet to the south and further from Old Highway 80, as

described in APM-AES-03 in Section 4.1.4 Applicant-Proposed Measures. The visual simulation demonstrates that while visible, the cable riser pole will not be particularly noticeable when seen within the context of the existing landscape setting with incorporation of APM-AES-03, which relocates the riser pole further from the substation than originally designed.

Impact Evaluation

Question 4.1a – Scenic Vista Effects - *Less-than-Significant Impact*

For the purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. Both I-8 and SR-94 are eligible state scenic highways. Old Highway 80 is a designated California State Historic Route. The proposed Boulevard Substation is approximately one mile from SR-94 and approximately 0.5 mile from I-8. The ECO Substation site lies approximately 0.3 mile from I-8. The 138 kV transmission line crosses Old Highway 80. As discussed previously in Section 4.1.3 and under Questions 4.1b and 4.1c, the Proposed Project will not have a substantial effect on views from I-8 and Old Highway 80. The Proposed Project will not be visible from SR-94 due to viewing distance and intervening vegetation.

The proposed ECO Substation will be visible from some locations on Nopal Peak in the Jacumba Wilderness, which is situated approximately 0.75 mile to the east (refer to Attachment 4.1-A: Visual Character Photographs – Photo 1). While Nopal Peak views could be considered a scenic vista, the roadway leading to this area is unpaved, and provides only limited access to hikers and off-road vehicles. Furthermore, the number of potentially affected viewers is relatively low. From places on Nopal Peak where it is visible, the ECO Substation will appear against the desert landscape backdrop. When seen from this viewing distance and perspective, the new transmission poles will be almost imperceptible. Visible portions of the proposed substation may include parts of the substation pad and graded slopes. Although they will not be prominent, these features could be somewhat noticeable due to potential contrast with the color and texture of the surrounding desert landscape. APM-AES-01, which includes revegetation, will minimize potential visual contrast and reduce the impact to less than significant.

Question 4.1b – Scenic Resource Damage within a State Scenic Highway – *No Impact*

None of the Proposed Project components will be visible from a designated state scenic highway; therefore, the Proposed Project will not damage scenic resources within a state scenic highway. While portions of the Proposed Project will be visible from Old Highway 80, the historic designation of this roadway does not preclude development (ACR, 2006).

Views of the Proposed Project will be available from I-8, a San Diego County-designated third-tier scenic highway. The visual setting in the Proposed Project area includes an existing transmission line. Attachment 4.1-B: Visual Simulations – Viewpoint 14 demonstrates that the new steel poles will barely be perceptible when seen from I-8. The Proposed Project represents a minor incremental change in views from this roadway; therefore, it will not substantially affect views from this county scenic highway corridor.

Question 4.1c – Visual Character Degradation

Construction – Less-than-Significant Impact

Construction-related visual impacts will result from the presence of equipment, materials, and work crews along the transmission line route and at the substations. To varying degrees, construction activity will be noticeable to local residents, motorists, and recreational users.

East County Substation

Construction activities will involve substantial grading and heavy machinery use. These activities will be visible from nearby places along Old Highway 80 and from some locations on I-8. However, no residences are located in close proximity to the site. It is expected that construction will be most noticeable to travelers on nearby roadways. Construction activities will take place over 24 months. Because the visual effect will be temporary in nature and because affected views will be brief in duration, the impact will be less than significant.

138 kV Transmission Line

Construction activities will involve substantial grading and heavy machinery and will be visible from nearby roadways and rural residences, including more densely settled areas in the communities of Jacumba and Boulevard. Construction activities will take place over an approximately eight-month period. Because of its temporary nature and because potentially affected close-range residential views within 0.25 mile are limited, the impact will be less than significant. However, given the sensitive nature of close range residential views, APM-AES-03 is proposed to reduce the potential effects on these sensitive close-range residential views. As previously discussed, the portion of BLM-managed land crossed by the 138 kV transmission line is designated as a VRM Class III area. The stated VRM objective of Class III lands is the partial retention of existing landscape character. Management or land use activities within this class may attract attention, but should not dominate the casual observer's view. Because the Proposed Project route occupies a recognized existing utility corridor and involves an incremental addition of utility structures where existing structures are present in the landscape, the project conforms to the partial retention standard. Therefore it is consistent with BLM VRM policies, and the impact will be less than significant.

Boulevard Substation Rebuild

Construction activities will involve substantial grading and heavy machinery use. The construction activity at the proposed Boulevard Substation site will be visible from nearby places along roadways and rural residences, including places within the Boulevard community. A limited number of residential viewers will experience close range views of construction activities. Construction activities will take place over six months and the demolition of the existing substation will take an additional six months; therefore, construction-related visual effects will be temporary in nature. However, given the sensitive nature of close range residential views, APM-AES-03 is proposed to reduce the potential effects on close-range residential views to a less-than-significant level.

Operation and Maintenance – Less-than-Significant Impact

To varying degrees, portions of the Proposed Project will be visible to the public. As discussed in this section and demonstrated by comparing the before and after views presented in Attachment 4.1-B: Visual Simulations, the implementation of APMs listed in Section 4.1.4: Applicant-Proposed Measures will ensure that the Proposed Project does not result in a substantial alteration of the existing visual character of the area.

East County Substation

As shown in Attachment 4.1-B: Visual Simulations, to varying degrees, the proposed substation will be visible from adjacent locations. When viewed against the desert landscape backdrop, facility components will be visible, but not particularly noticeable. The disturbed ground around the substation and substation pad may contrast with the surrounding desert landscaping. APM-AES-01, which includes revegetation and landscaping, will reduce this impact to a less-than-significant level.

138 kV Transmission Line

For most of its length, the 138 kV transmission line will be parallel to an existing transmission line—the 500 kV SWPL. The mottled grey-brown color of the desert landscape in the Proposed Project area is highly visually absorptive of similarly colored elements. The existing SWPL lattice towers, which the Proposed Project parallels for much of its route, nearly disappear when seen against this backdrop, but appear more visible against the skyline. The proposed 138 kV transmission poles will be lower in height than the existing SWPL towers; however, their solid profile and lighter color make them somewhat more noticeable than the lattice towers when seen against a landscape backdrop. When seen against the skyline, the light colored, slender-profile new poles will generally appear less noticeable than the SWPL towers. Overall, the introduction of new steel poles, which will mostly appear in close proximity to the existing lattice towers, represents an incremental visual change that will not substantially alter views of the existing landscape currently seen by the public along the Proposed Project route.

For approximately four miles of the route, the Proposed Project will involve the installation of a transmission line in a new ROW not bordered by the SWPL. In this portion of the route, scattered groupings of trees will provide some screening, but as shown in Attachment 4.1-B: Visual Simulations – Viewpoint 26, when seen at close distances (within 0.25 mile), the steel poles will be visible. This portion of the Proposed Project area is sparsely settled and has few public roads. With the exception of the area around the community of Boulevard, it is expected that the 138 kV transmission line will not be particularly visible to the public. As a result, the impact will be less than significant.

Boulevard Substation Rebuild

The removal of the existing Boulevard Substation may result in an improvement of views from some locations in the area. Portions of the rebuilt Boulevard Substation will be visible from locations along Old Highway 80. Attachment 4.1-B: Visual Simulations demonstrates that APM-AES-02, which includes Proposed Project landscaping and revegetation, will provide substantial screening of the substation components and reduce this impact to a less-than-significant level. In addition, APM-AES-03 proposes extending the underground portion of the

138 kV line and relocating the steel cable riser pole outside of the immediate viewshed of Old Highway 80.

Question 4.1d – New Light or Glare

Construction – Less-than-Significant Impact

Some construction of the ECO Substation may take place at night. Activities will require lighting. There are no sensitive residential viewers in close proximity to the substation site; however, Old Highway 80 and I-8 motorists could briefly see the construction lighting. Because this impact is temporary in nature and the affected views would be brief in duration, these visual effects are considered less than significant. No nighttime construction requiring lighting will be conducted during the Boulevard Substation rebuild.

Operation and Maintenance – Less-than-Significant Impact

No permanent lighting is planned for the 138 kV transmission line. At the ECO Substation, ten 100-watt yellow lights will be installed near the entry. These lights will be on permanently. Other lighting to be installed at the ECO and rebuilt Boulevard substations will normally be off and will only be used during nighttime for security and safety reasons and to allow for nighttime emergency repair and routine maintenance access. There are no sensitive residential viewers located in close proximity to the ECO Substation. It is expected that vegetation will screen potential residential views of lighting at the rebuilt Boulevard Substation. The substation lights will be oriented downward and will utilize non-glare fixtures to minimize glare onto surrounding property and habitat. These changes in nighttime lighting conditions will therefore be minor and less than significant.

4.1.4 Applicant-Proposed Measures

The following measures are proposed to ensure impacts to aesthetics are reduced to a less-than-significant level:

- APM-AES-01: In order to reduce potential visual contrast and integrate the ECO Substation’s appearance with the desert landscape setting, when Project construction has been completed, all disturbed terrain at the ECO Substation site will be restored through recontouring and revegetation in accordance with the Landscaping Plan included as Figure 4.1-3: East County Substation Landscape Concept Plan.
- APM-AES-02: When Project construction has been completed, all disturbed terrain at the Boulevard Substation site will be restored through recontouring, revegetation, and landscaping in accordance with the Landscaping Plan included as Figure 4.1-4: Boulevard Substation Landscape Concept Plan. In order to provide screening and thus reduce potential Project visibility, the Landscape Plan includes larger shrubs and trees that will partially screen views of the substation from Old Highway 80 and from adjacent residential properties.
- APM-AES-03: In order to reduce the Project’s potential visibility from Old Highway 80, the underground portion of the new 138 kV transmission line will be extended an

additional distance of approximately 600 feet to the south and the steel cable riser pole will be relocated to replace structure SP-2.

- APM-AES-04: Construction activities will be kept as clean and inconspicuous as possible. Where practical, construction storage and staging will be screened with opaque fencing from close-range residential views.

4.1.5 References

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