4 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

4.1 INTRODUCTION

The CEQA Environmental Checklist and related guidance determined the scope of the assessment for each environmental discipline presented in the following subsections. In each resource category, the questions contained in the CEQA Environmental Checklist are provided first, followed by a discussion of the environmental setting and environmental impacts and recommended mitigation for each discipline.

The required Setback Distances for this project are presented in Table 4.1-1.

4.1-1 Required Setback Distances

Feature	Setback Distance	Disturbance Type
Top of stream bank or edge of riparian vegetation or vernal pool	25 feet	All surface construction activities
Adjacent properties	25 feet maximum width	Conduit and cable installation
Adjacent properties	25 feet maximum width	Construction traffic turnaround
Water bodies including wetlands, drainages, rivers, streams, or lakes	150 feet	Equipment refueling, storage, parking, servicing or maintenance (except drill rigs)
Adjacent properties	25 feet maximum width	Equipment refueling, storage, parking, servicing or maintenance (except drill rigs)
Raptors (in general) during nesting season	½ mile	All construction activities
Prairie Falcon during nesting season (3/15 – 8/31)	1 mile	All construction activities
Desert tortoise, burrowing owl, mojave ground squirrel (occupied burrows)	Per USFWS Biological Opinion and ~~CDFG consultation~~CESA Permit or consistency determination on the USFWS Biological Opinion for state listed species that are also federally listed.	All construction activities
Yuma Clapper Rail	Per USFWS Biological Opinion	All construction activities
Least Bell's vireo during nesting season (~~4/10~~ 4/1-7/31)	1,000 feet	All construction activities
Willow flycatcher during nesting season (5/15-7/17)	1,000 feet	All construction activities
Riparian bird species (in general) during nesting season (4/1-7/31)	1,000 feet	All construction activities
California gnatcatcher during nesting season	1,000 feet	All construction activities
Swallows (nesting period)	Bridge with active nests	All construction activities
Bat (nesting periods)	Bridge with active roosts	All construction activities
Red-legged frog, arroyo toad, southwestern pond turtle, silvery legless lizard, and San Diego horned lizard and/or their habitats	Per USFWS biological opinion and ~~CDFG consultation~~CESA Permit or consistency	All construction activities

Feature	Setback Distance	Disturbance Type
	determination on the USFWS Biological Opinion for state listed species that are also federally listed.	
Special-status amphibians and reptiles	25 feet from drainage	All construction activities
Special-status aquatic species (in general) year round	25 feet from drainage	All surface construction activities
Special-status plant species year round	25 feet	All construction activities
Known buried cultural resources	Per CA SHPO technical assistance	All ground disturbing activities
Previously unknown buried cultural resources	100 feet	All ground disturbing activities
Buried human remains	Immediate & nearby area	All ground disturbing activities
Existing or proposed school	¼ mile	Handling or emissions of hazardous materials
Existing or proposed school	500 feet	Staging area
Water bodies including wetlands, drainages, rivers, streams, or lakes	150 feet	Storage of hazardous substances
Residences on Mondays thru Saturdays, from 7:00 pm to 7:00 am	Within 1,000 feet	All construction and staging area activities except for construction within MTA right-of-way
Occupied dwelling units on Mondays thru Saturdays from 7:00 pm to 7:00 am, & on Sundays and legal holidays)	Within 3,000 feet	All construction and staging area activities except for construction within MTA right-of-way
Sensitive noise receptors	Use battery/solar powered devices within 500 feet	Traffic control devices

4.2 AESTHETICS

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Aesthetics typically refers to the perceived visual character of an area, such as the scenic view, open space, or architectural facade. Visual character can be affected by the components of a proposed project (e.g., buildings constructed at a height that obstructs views, hillsides cut and graded, open space changed to an urban setting). The aesthetics of California vary widely across the state and the project system. The aesthetic or visual qualities of large metropolitan areas, such as Los Angeles, are quite different from those of smaller urban areas, such as Twentynine Palms. Likewise, rural areas, whether natural, agricultural, or a combination, have their own aesthetic character.

The proposed system passes through a visual setting that ranges from desert terrain and mountainous chaparral, to agriculture, suburban and urban settings. The majority of the ROW passes through desert terrain where the visual quality of the ROW is fairly consistent. Much of the telecommunication system will be buried directly into the shoulder of the roadway in Riverside and San Bernardino Counties. Most land in the ROW is managed on a regular basis to discourage vegetative growth, and is essentially devoid of vegetation. When the ROW reaches Los Angeles, the visual character changes to mountainous chaparral as it passes through Soledad Canyon and then to heavily urbanized communities. In the urbanized areas, the telecommunications system will be trenched directly into the roadways.

OFF-ROW

The proposed regeneration station sites are photographically shown in Figures 4.2-1 through 4.2-6.

Figure 4.2-1. Blythe Regeneration Station Site. Source: ENTRIX, Inc.

Figure 4.2-2. Rice Regeneration Station Site. Source: ENTRIX, Inc.

Figure 4.2-3. Twentynine Palms Regeneration Station Site. . Source: ENTRIX, Inc.

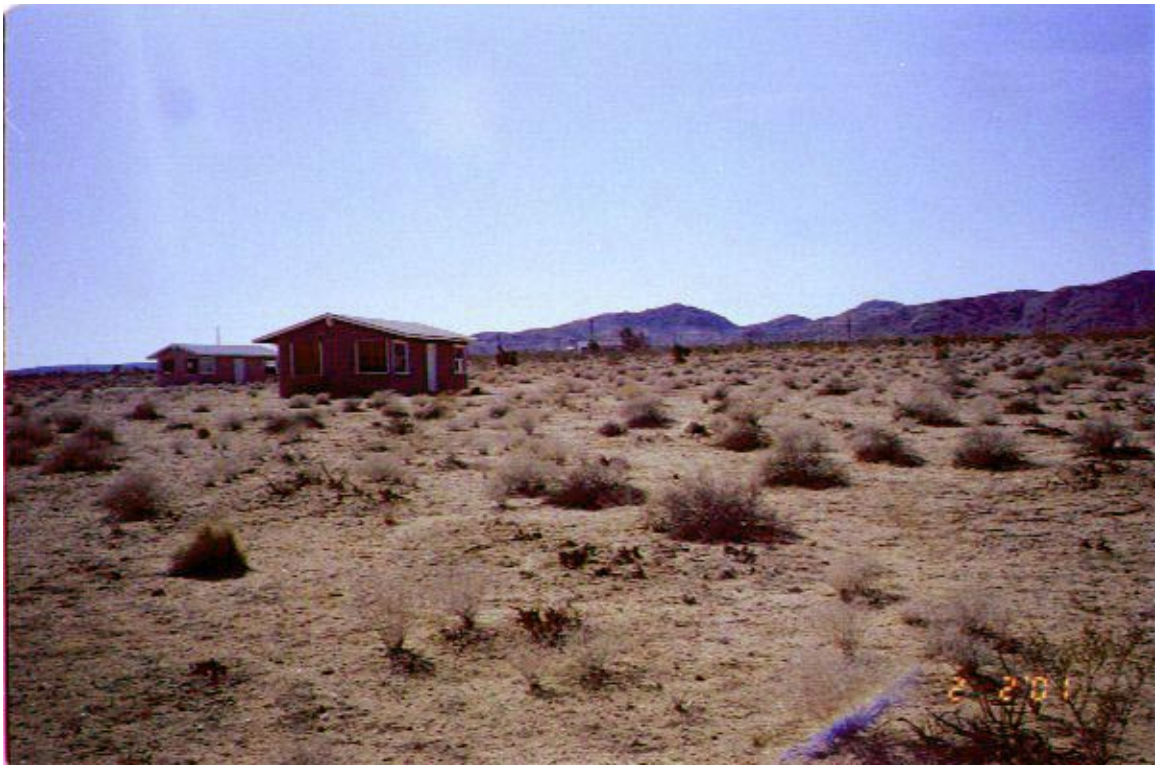

Figure 4.2-4. Linn Regeneration Station Site. . Source: ENTRIX, Inc.

Figure 4.2-5. Apple Valley Regeneration Station Site. . Source: ENTRIX, Inc.

Figure 4.2-6. El Mirage Regeneration Station Site. Source: ENTRIX, Inc.

Blythe

The area proposed for the Blythe Regeneration Station is north of the town of Blythe, southeast of the intersection of Lovekin Boulevard and the Sante Fe Railroad tracks in Riverside County. The terrain in the immediate area is typical flat, dry desert dotted with saltbush vegetation; to the east are agricultural fields. The proposed site area has been thoroughly disturbed by bulldozer activity, railroad and road construction and maintenance, as well as off-road vehicular traffic. North of the proposed site are views of nearby bluffs and to the south and east are views of distant mountains. The surrounding area is rural and uninhabited except for a single residence which is approximately 800 to 1,000 feet southeast and within viewing distance of the site. The visual sensitivity of the site is considered low due to the small number of people viewing the landscape. The average daily traffic count in the vicinity is 180 vehicle trips. Recreationists using the area would be able to see the proposed regeneration station but due to the expansive open space surrounding the site, it would not likely interfere with their recreational experience.

Rice

The proposed Rice Regeneration Station site is located on both sides of Midland Road approximately 2/10 of a mile south of the intersection of SR 62 and Midland Road in Riverside County. The general area is flat with views of the distant Turtle, Iron, Granite, and West Riverside mountains. The proposed site location is on both the east and west sides of Midland Road and consists of flat desert terrain with small gravel and pebbles and numerous small (<1 ½ feet wide), dry, natural drainages. The proposed location is within the historical townsite of Rice, which dates from 1914 to the 1960s. There are no standing structures in the immediate vicinity of the proposed regeneration station site; therefore, the regeneration station would be highly visible. However, the standing structures (in generally poor condition) at the intersection of SR 62 and Midland Road would be more noticeable from SR 62 than the regeneration station. The average daily traffic count is two vehicles on Midland Road and 1,600 on SR 62.

The Rice Regeneration Station will require the construction of approximately 3.3 miles of new power line, within the footprint of the historic power line that formerly supplied power to the town of Rice. The new power line will be highly visible to motorists traveling on SR 62.

Twentynine Palms

The proposed Twentynine Palms Regeneration Station site is located east of the town of Twentynine Palms on both sides of SR 62 in San Bernardino County. The general area is typical desert terrain with fine-grained sandy soil, an abundance of rocks, and numerous species of desert plants. Running in a roughly north/south direction across the southern portion of the parcel are two relatively large washes. The terrain slopes slightly to the northeast. An unoccupied, but well maintained residence is approximately 100 feet south of the proposed site and would be within viewing distance. Encircling the proposed station location are the Sheep Hole, Bullion, and Pinto Mountains, which provide scenic views in almost all directions. The new generation station would be highly visible to motorists traveling along SR 62. Approximately 180 vehicles per day travel along this portion of SR 62.

Linn

The proposed Linn Regeneration Station site is located west of the rural town of Landers and east of SR 247 in San Bernardino County. The proposed facility location is west of Shawnee Trail and north of Linn Road in a rural setting with scattered residences. The proposed, approximate 5-acre parcel is sandy, desert terrain that slopes slightly to the east and is dotted with sparse clumps of creosote and sagebrush. Spread across the landscape are small to

medium-sized residences with various sheds and carports. Directly east of the parcel (approximately 100 to 350 feet depending on exact facility placement) are a two-story residence with a small shed and a second residence (possibly abandoned). Small hills are present in the middle foreground and the fairly undisturbed landscape provides scenic views. The visual quality at this site is moderate. The proposed station would be visible from the nearby residences. The new regeneration station would be visible to motorists traveling along Linn Road. The average daily traffic count on Linn Road is 518 vehicles per day east of SR 247 and 269 vehicles per day west of Belfield Boulevard.

Apple Valley

The proposed Apple Valley Regeneration Station site is located between the small, rural towns of Hesperia and Lucerne Valley in San Bernardino County. The proposed site is located north of SR 18, west of Soledad Drive and south of Charparosa Drive in a rural setting dotted with residences. The approximately 4-acre parcel consists of flat desert terrain with creosote bush serving as the predominant form of plant life. Approximately 1½ miles northeast are the Granite Mountains and Rodman Mountains Recreation Land. The relatively open area provides visually pleasing views of the mountains. The nearest residence is on the eastern side of Soledad Drive approximately 150 to 300 feet away depending on the exact proposed building location. The proposed station would be visible from the nearby residences and to motorists traveling on SR 18. Approximately 5,935 vehicle trips are made daily at the Bear Valley Road cutoff west of SR 18.

El Mirage

The proposed El Mirage Regeneration Station site is located east of the city of Palmdale and north of SR 18 in Los Angeles County. The proposed regeneration site is in a rural residential setting located on the south side of El Mirage Road (Avenue P) approximately ¼ mile east of the intersection of El Mirage Road and 240th Street East. The general vicinity is open, rural, desert terrain with occasional residences, storage sheds, and barns. The proposed regeneration parcel consists of flat desert terrain with a slightly undulating surface in the western portion. The sandy soil is dotted with vegetation, primarily saltbush. The visual character is open with views of distant mountains primarily to the south. The new regeneration station would be visible to motorists traveling along El Mirage Road. Approximately 3,475 vehicular trips are made daily along El Mirage Road. The closest residence is located approximately 300 feet north and across El Mirage Road from the proposed site.

ENVIRONMENTAL IMPACTS

ON ROW

a) Have a substantial adverse effect on a scenic vista?

The proposed system traverses large parts of southeastern and southern California. Although aesthetics is essentially a qualitative issue, scenic vistas are usually considered those that offer high quality views of the natural environment. On this basis, the most scenic portions of the route are crossing the Desert Conservation Area in Riverside and San Bernardino Counties, and Soledad Canyon in Los Angeles County.

The telecommunication system will be buried or attached to existing bridges. All work will occur within existing road ROWs. Installation of the system involves only limited machinery and construction duration. Trenches, bore pits, and areas where potholes are dug for installing manholes or handholes will be restored to as near pre-project conditions as possible or practicable. Installation of conduits will have no long-term impacts.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

As described above, the proposed system will be installed within disturbed ROWs and below ground where it will have minimal visual impact. Because the proposed system will be installed in already disturbed ROWs, the cable markers will blend with existing utility marker posts and markers demarcating the roads.

Installation of the telecommunication system will have a temporary visual impact during construction. However, because it will be located in already visually disturbed ROWs, this impact will be minimal. No historic resources along scenic highways will be adversely affected (see Section 4.7, "Cultural Resources" for further detail). In general, installation by trenching may have an aesthetic impact beyond the construction period in rural areas if trenching should cause a landscape scar for a short duration (i.e., less than three years). This type of impact is related only to trenching, not plowing. The effects of trenching could be particularly visible when trenches run up steep slopes. The majority of the line will be plowed. EPGN plans to only trench when necessary, and within the paved portions of the roadways. Measures to minimize possible temporary changes in landscape from trenching and boring operations are included in the reclamation plans prepared for the project system. Implementation of the construction techniques associated with the proposed project will result in a less-than-significant impact on scenic resources.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

As discussed above, in general, the proposed system will not substantially degrade the existing visual character or quality of areas surrounding the system. Because the proposed system will be located within previously disturbed ROWs, most of the installation and subsequent restoration will be buried, and therefore not visible except for the cable markers. The installation method described in the project description will ensure that visual impact beyond the construction period is avoided.

New underground installation will have minimal impact because: (1) the installation will be within an already disturbed ROW, (2) the installation method described in Section 2.0 will ensure that surface disruptions are returned to as close as possible or practicable to pre-project grade, (3) disturbed areas will be reseeded as necessary, and (4) access vaults and the conduits will be buried.

The system will often be installed by plowing within existing road shoulders, which will have minimal visual impacts in rural areas. Although installation will be limited to road ROWs, visual impacts could potentially occur where vegetation is removed. However, the disturbance will be temporary and limited. The placement of cable markers will also be a new visible feature. The placement of cable markers will be consistent with existing road and other utility markers that typically exist within road ROWs. In the urban areas of Los Angeles County, the conduits will be installed by trenching directly in the roadway. Trenching generally creates a 1-foot-wide by 4-foot-deep trench into which conduits are placed. If trenching is required in other areas, impacts will be reduced to a less-than-significant level by replacing existing topsoil, using stringent erosion control methods, and reseeding disturbed areas where necessary as outlined in the SWPPP developed for the project. With these mitigations incorporated, the impact will be less-than-significant.

Impact AE-1

Landscaping in the system ROW may be impacted by trenching or plowing. This impact will be reduced to less-than-significant with the following mitigation measures.

Mitigation AE-1

EPGN shall consult with local agencies and landowners on proper restoration of landscaping to its original form.

e) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Installation and operation of the new telecommunications system will not create a new source of substantial light or glare.

OFF-ROW

a) Have a substantial adverse effect on a scenic vista?

All Regeneration Stations

The proposed regeneration stations would be located on sites where the new facilities would not obstruct or adversely affect a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

All Regeneration Stations (Except Rice)

The proposed regeneration stations are not located along or within close proximity to any state scenic highways. Construction of the proposed regeneration stations would not damage any rock outcroppings, trees, or historic buildings.

Impact AE-2

Rice

Due to the historic landscape of the townsite of Rice, the new power line and regeneration station could degrade the historic character of the landscape. This impact will be reduced to less-than-significant with the implementation of the following mitigation measures.

Mitigation AE-2a

The introduction of the prefabricated building would introduce a modern facility into the rural townsite. To mitigate this effect, the building's exterior surface is being designed to blend in with the stark desert landscape.

Mitigation AE-2b

Erection of a power line from the nearest power source, some three miles distant, would introduce an additional visual impact that runs to the north of the Camp Rice airfield. EPGN proposes to construct the power line with wooden poles and cross-arms that are visually similar to power lines that were present during World War II, the period of historical significance. Photographs of the period demonstrate that a variety of pole lines were in use to bring power and communication to the facilities ranging from a pole suspending a single line by a pin-type glass insulator to multiple lines suspended from poles with five or more cross-arms. The pole line proposed will suspend two lines, a hot line and a ground line. Some design changes may be required to provide for raptor protection from electrocution. Presently, the design calls for vertically separating the two lines.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

All Regeneration Stations

Construction of the proposed regeneration stations would consist of site grading and clearing and placement of pre-assembled buildings on concrete pads. Although the introduction of the proposed regeneration stations will, in some cases, contrast with the existing visual character, the visual impact will be negligible; the regeneration stations will be constructed in a style that matches the general setting using neutral colors. Landscaping, if necessary, will be placed around the regeneration stations and parking area perimeter to minimize the industrial appearance of structures if requested by the landowner or land managing agency.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

All Regeneration Stations

The proposed regeneration stations would each have an overhead security light and a small light over any exterior door. The single security light and exterior door lights would introduce a new source of light into the existing landscapes. However, because this lighting is of a wattage similar to that used in residential areas and will be shaded to avoid producing glare, it would have no impact on the surrounding areas.

4.3 AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

California is the nation's leading agricultural state, with $26.8 billion worth of total production and income in 1997 (California Department of Food and Agriculture 1997). The variety of climates and soils in the state, together with the long growing season and availability of water, make it suitable for growing a wide variety of crops. The major crops produced in California include asparagus, cotton, citrus, grapes, lettuce, nuts, stone fruits (e.g., almonds and plums), strawberries, and tomatoes. Poultry, dairy, and beef cattle are also important products.

ON-ROW

The major growing areas of California crossed by the proposed system, and some of the major products of these areas, include:

- Riverside County, which produces livestock, poultry, alfalfa hay, cotton, lettuce, cantaloupe, and grains.
- San Bernardino County. Its primary agricultural products include dairy products, livestock, poultry, nursery products, alfalfa, oranges, oriental vegetables, grapes, and strawberries.
- Los Angeles County, which produces dairy and cattle, poultry, wheat, barley, alfalfa hay, vegetables, and orchard crops.

The only area where the proposed system is within close proximity to agricultural lands is in Riverside County near Blythe. The proposed system will be located within the shoulder of roadways and will not disturb the agricultural lands.

OFF-ROW

All Regeneration Stations

Proposed regeneration stations in the Riverside, San Bernardino, and Los Angeles Counties will not be located at sites that are zoned for agriculture. The proposed sites are not cultivated, and there are no agricultural operations in the vicinity.

ENVIRONMENTAL IMPACTS

ON-ROW

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The proposed system will not result in the permanent conversion of prime or unique farmland or farmland of statewide importance to nonagricultural use. The system will be installed underground by plowing, trenching, or drilling within existing disturbed ROWs. Construction will not disrupt agricultural activities, and there will be no permanent impact. Therefore, the system will have no impact on agricultural operations.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed system is within existing ROWs that are not currently used for agriculture, and therefore is neither in conflict with existing zoning nor the Williamson Act and will have no impact.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The proposed system will create no demand on agricultural land and exert no pressure for conversion of agricultural land to another use. Therefore, the proposed system will have no impact on agricultural resources.

OFF-ROW

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

All Regeneration Stations

None of the proposed regeneration station sites are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Construction and operation of the regeneration stations would result in no impact on designated prime farmlands.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

All Regeneration Stations

The proposed system is within existing ROWs that are not currently used for agriculture, and therefore is neither in conflict with existing zoning nor the Williamson Act and will have no impact.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Construction and operation of the proposed regeneration stations are not expected to result in the conversion of farmland to non-agricultural use. Therefore, no impact will occur.

4.4 AIR QUALITY

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposal:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The bulk of the project is located in the Mojave Desert Air Basin (MDAB), which falls under the purview of the Mojave Desert Air Quality Management District (MDAQMD) as depicted in Figure 4.4-1. The climate of the Mojave Desert Air Basin is characteristic of a desert environment. The large San Gabriel and San Bernardino Mountain ranges block the desert from the cool, moist, coastal air of the South Coast Air Basin (SCAB). The Mojave Desert region generally experiences hot, dry summers and mild winters with very little annual rainfall (from 2 to 5 inches per year). The average annual temperature is 60° to 75°F (15°-24°C). The highest temperature ever measured in the United States was in this region –134°F (57°C) in 1913 at Death Valley (although this is considerably north of the project area). Direct sun radiation is very strong, as is outgoing radiation at night, causing extreme variations between day and night temperatures and a rare nocturnal frost. Meteorology is influenced by a moderately intense anticyclonic circulation, except during periods of frontal activity during the winter. Though winters are moderate, the entire region is subject to occasional frosts. On average, 20 to 30 frontal systems (e.g., storms) move into the MDAB each winter. In winter the rains are widespread and usually gentle, but in summer they are usually thunderstorms. In the Mojave Desert of southeastern California, there are virtually no summer rains. No part of the province has regular rains, and a year or more may pass without measurable rainfall, especially in the region's western part. Average annual precipitation is 2 to 10 inches (50 to 250 mm) in the valleys, but may reach 25 inches (610 mm) on mountain slopes. During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast of California. Prevailing winds are out of the west and south, tending to a west to east flow across the area (MDAQMD 1995; Bailey 1995).

Figure 4.4-1. Air Basins Boundaries in California.

The westernmost portion of the project area lies in the South Coast Air Basin (SCAB), which falls under the purview of the South Coast Air Quality Management District (SCAQMD). The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential and constrain efforts to achieve clean air. The climate is characterized by hot, dry summers, and rainy, mild winters. Temperatures average 32° to 60°F (0° to 16°C) in the mountains of southern California, slightly warmer along the coast, always falling with rising elevation. Precipitation in the mountains, which ranges from 12 to 40 inches (310 to 1,020 mm) per year, is evenly distributed through fall, winter, and spring, and increases with elevation. Most of this is rain, and the little snow that falls in winter melts quickly. Frost and short periods of freezing weather occur occasionally in winter. Coastal areas have a more moderate climate than the interior and receive some moisture from fog in summer. Immediately along the coast there can be a pronounced summer drought; fire is common, usually set by lightning during the summer dry season. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. This region experiences more days of sunlight than any other major urban area in the nation except Phoenix, and sunlight triggers the photochemical reactions which produce ozone (SCAQMD 1995; Bailey 1995).

ON-ROW

The proposed project system from Blythe to Los Angeles passes through the Mojave Desert and South Coast Air Quality Management Districts (AQMDs). The attainment status for the counties traversed by the on-ROW facilities is presented in Table 4.4-1, and the number of days standards were exceeded (for the most recent year data are available from 1997 to 1999) at sites near the proposed project are listed in Table 4.4-2.

OFF-ROW

The proposed regeneration stations are located in the Mojave Desert and South Coast Air Quality Management Districts (AQMDs). The attainment status for the counties in which these facilities are located is presented in Table 4.4-1, and the number of days standards were exceeded (for the most recent year data are available from 1997 to 1999) at sites near the proposed project are listed in Table 4.4-2.

Table 4.4-1 Ambient Air Quality Standards and Air Basin Designations.

Gray shading indicates that Attainment/Nonattainment is not designated for that parameter.

	Ozone		Respirable Particulate Matter (PM_{10})		CO		Nitrogen Dioxide (NO_2)		Sulfur Dioxide (SO_2)		Sulfates		Hydrogen Sulfide (H_2S)		Lead		Visibility Reducing Particles (VRP) **	
	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US
Ambient Air Quality Standards (Averaging Time In Parentheses)	0.09 ppm = 180 µg/m^3 (1h)	0.12 ppm = 235 µg/m^3 (1h)	30 µg/m^3 (AGM)	50 µg/m^3 (AAM)	9 ppm (8h)	9 ppm (8h)	0.25 ppm (1h)	0.053 ppm (AAM)	0.04 ppm (24h)	0.030 ppm (AAM)	25 µg/m^3 (24h)		0.03 ppm = 42 µg/m^3 (1h)		1.5 µg/m^3 (30d)	1.5 µg/m^3 (quarterly)	See below	
		0.08 ppm = 157 µg/m^3 (8h)	50 µg/m^3 (24h)	150 µg/m^3 (24h)	20 ppm (1h)	35 ppm (1h)			0.25 ppm (1h)	0.14 ppm (24h)								
Mojave Desert Air Basin																		
Riverside County	N(e)	U	N	N	U	U	A or U	A or U	A or U	A or U	A		U		A or U		A or U	
San Bernardino County	N(e)	**U in part N in part**	N	N*	A	U	A or U	A or U	A or U	A or U	A		U		A or U		A or U	
Los Angeles County	N(e)	N	N	N	A	U	A or U	A or U	A or U	A or U	A		U		A or U		A or U	
South Coast Air Basin																		
Los Angeles County	N(e)	N	N	N	N	N	A or U	A or U	A or U	A or U	A		U		A or U		A or U	

AGM = annual geometric mean; AAM = average arithmetic mean
* (now meets standard, California Air Resources Board has recommended redesignation as A (attainment).
** Visibility reducing Particles Standard: Sufficient to produce an extinction coefficient of 0.23 per km — visibility of 10 miles or more (0.07 = 30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%; 8-hour average (10am-6pm Pacific Standard Time).

Sources for Table 4.4-1:

Air Resources Board website (http://www.arb.ca.gov/), information retrieved October-December 2000 -- attainment/nonattainment updated 19 November 1999; AAQS info updated 25 January 1999.

James M. Gittelson, Assistant Information Officer, California Air Resources Board. Personal communication, 17 November 2000. 800-242-4450.

Jeff Wright, California Air Resources Board. Personal communication, 21 November 2000. jwright@arb.ca.gov.

Table 4.4-2 Number of days Ambient Air Quality Standards were exceeded in 1999 (unless otherwise indicated) at monitoring stations near the proposed project alignment.

Monitoring Station (and approximate distance to proposed alignment)	Ozone (CA 1h; US: 1h,8h)		PM_{10} (24h) (measured, calculated for entire yr)		CO (8h)		NO_2		SO_2 (24h)		Sulfates		H_2S		Lead		VRP	
	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US
Riverside County There are no monitoring stations near the proposed alignment in Riverside County. This indicates exceedances are not likely to occur in this portion of Riverside County.	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)	(see note at left)		(see note at left)		(see note at left)		(see note at left)	
San Bernardino County Hesperia- Olive Street (<5mi.)	38	2, 25	5, 30	0, 0	0 (1998)	0 (1998)	0 (1998)	n/a	0 (1998)	0 (1998)	n/a		n/a		n/a		n/a	
San Bernardino County Joshua Tree National Monument (<1mi.)	40	2, 38	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a		n/a		n/a	
San Bernardino County Phelan (5 mi.)	37	2, 32	n/a	n/a	n/a	n/a	0 (1998)	n/a	0 (1998)	0 (1998)	n/a		n/a		n/a		n/a	
San Bernardino County Twentynine Palms (<5 mi.)	11	0, 13	4, 24	0, 0	0 (1997)	0 (1997)	0 (1998)	n/a	0 (1997)	0	n/a		n/a		n/a		n/a	
San Bernardino County Victorville (5 mi.)	19	0, 12	3, 18	0, 0	0	0	0	n/a	0	0	n/a		n/a		n/a		n/a	
San Bernardino County Lucerne Valley	n/a	n/a, n/a	1, 6	0, 0	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a		n/a		n/a	

Table 4.4-2 Number of days Ambient Air Quality Standards were exceeded in 1999 (unless otherwise indicated) at monitoring stations near the proposed project alignment.

Monitoring Station (and approximate distance to proposed alignment)	Ozone (CA 1h; US: 1h,8h)		PM_{10} (24h) (measured, calculated for entire yr)		CO (8h)		NO_2		SO_2 (24h)		Sulfates		H_2S		Lead		VRP	
	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US	CA	US
(<5 mi.)																		
Los Angeles County Burbank (<5 mi.)	13	0, 3	21, 126	0, 0	0	0	0	n/a	0	0	n/a		n/a		n/a		n/a	
Los Angeles County Lancaster (10 mi.)	1	0, 0	2, 12	0, 0	0	0	0	n/a	n/a	n/a	n/a		n/a		n/a		n/a	
Los Angeles County Los Angeles (<5 mi.)	13	1, 2	19, 114	0, 0	0	0	0	n/a	0	0	n/a		n/a		n/a		n/a	
Los Angeles County Pasadena (6 mi.)	15	0, 3	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a		n/a		n/a		n/a	
Los Angeles County Reseda (9 mi.)	5	0, 0	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a		n/a		n/a		n/a	
Los Angeles County Santa Clarita (<5 mi.)	18	0, 11	12, 72		0	0	0	n/a	n/a	n/a	n/a		n/a		n/a		n/a	

Source: California Air Resources Board web site, at http://www.arb.ca.gov/adam/cgi-bin/db2www.exe/adamquery.mac/start. Gray shading indicates that Attainment/Nonattainment is not designated for that parameter. n/a = no data available for 1997-1999.

ENVIRONMENTAL IMPACTS

The following describes environmental impacts from construction and operation of the system, and appropriate mitigation measures. At this time, no permits have been obtained from the applicable AQMDs. Accordingly, additional mitigation measures beyond those described in this IS/MND may be required. In this case, the mitigation measures will be incorporated into the monitoring plan, and the results will be submitted to the CPUC.

ON-ROW

During construction, emissions and odors will be generated at each project site by heavy-duty diesel and gasoline–powered construction equipment, including a backhoe, bulldozers, and directional boring rigs. Emissions from construction equipment activities will not cause significant air quality impacts due to the relatively small amount of equipment needed and the short duration of construction activities.

Fugitive dust emissions from disturbed areas during grading and construction activities may present impacts that are potentially significant unless mitigation is incorporated. Therefore, EPGN shall develop and implement appropriate dust control measures during excavation as recommended by the applicable AQMD. EPGN shall comply with all applicable air quality measures as established by the affected AQMD. Documentation of EPGN's compliance with this mitigation measure shall be included in its quarterly report.

a) Conflict with or obstruct implementation of the applicable air quality plan?

The primary air emissions generated by the proposed project in California will be temporary, resulting from construction activities associated with installation. EPGN shall comply with the fugitive dust and ozone mitigation measures prescribed by each AQMD. Accordingly, the project will not conflict with either AQMD's attainment plans.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact AQ-1

Heavy equipment will produce temporarily increased levels of air pollutants during construction. In some meteorological conditions, these levels may result in temporary exceedances of the limits established in the affected air quality basin and may lead to violations of applicable air quality standards, potentially exposing sensitive receptors to elevated levels of exposure. The proposed system would be located in air basins designated non-attainment for PM_{10} and ozone. Fugitive dust emissions during grading, plowing, and trenching activities would contribute to an air quality violation, and these activities would also contribute to the PM_{10} standard non-attainment. This impact is considered less-than-significant with EPGN's adoption of the following mitigation measure as part of the construction mitigation strategy for the proposed project.

Mitigation AQ-1

EPGN shall use best management practices (BMPs), as required in the respective AQMD, for construction activities and shall train work crews in those measures prior to beginning work. The available BMPs shall, at a minimum, include the practices listed below in combination with any additional practices required by the presiding air district.

- Work crews shall use low-emission construction equipment or reformulated fuel.
- Construction sites shall be sprayed with water, when needed, to reduce suspension of dust particles.
- Ground covers shall be reestablished to prevent erosion per SWPPP requirements.
- Crews shall maintain engines of trucks and heavy equipment.
- Equipment shall be cleaned, as needed, to prevent tracking of soil onto adjacent roads.
- Tracked soil shall be removed from adjacent roads.
- When wind speed exceeds 25 mph, grading activities shall cease.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

With the implementation of the identified mitigation measures, the proposed project will comply with all air quality standards. Therefore, it will not result in a cumulatively considerable net increase of a criteria pollutant in a non-attainment area under an applicable federal or state ambient air quality standard, including releasing emissions that exceed quantitative thresholds for ozone precursors.

d) Expose sensitive receptors to substantial pollutant concentrations?

Most of the construction will occur away from any sensitive receptors. Within urban areas, mitigation measure AQ-1 will protect sensitive receptors from substantial pollutant concentrations. Operation of the system will not expose sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people?

The proposed project will generate odor temporarily from diesel exhaust emitted during construction activities. This odor impact is considered less-than-significant because construction odors will be temporary and the odor source will not be severe or affect a substantial number of people.

OFF-ROW

The air quality impacts associated with the proposed regeneration stations are the same for all sites. No air emissions are generated during normal operations of the regeneration facilities. Minor air emissions will be generated by equipment during the construction of the regeneration facilities and during periodic testing of the backup generators for one hour every two weeks. Additional operation of these generators will only occur in the event of power outages at the regeneration stations. The backup generators will only operate for a short time, until power is restored to the sites. Thus, emissions from the generators will be short in duration, low in mass, and will be localized to the immediate area at each station.

There are no significant emissions or odors associated with normal operation of the proposed regeneration stations. The only potential air emissions or odors will result from the occasional operation of the backup diesel generators.

During construction, emissions and odors will be generated at each project site by heavy-duty diesel- and gasoline-powered construction equipment. Emissions from construction equipment activities will not cause significant air quality impacts due to the relatively small amount of equipment needed and the short duration of construction activities.

Impacts from fugitive dust emissions from disturbed areas during grading and site construction activities will be less-than-significant with mitigation measures incorporated.

a) Conflict with or obstruct implementation of the applicable air quality plan?

All Regeneration Stations

Impact AQ-2

Diesel engines for emergency backup generators will emit air pollutants during the infrequent periods they are used. The primary pollutants associated with emissions from the generators consist of ozone precursors (reactive organic gases [ROG] and nitrogen oxides [NO_x]), carbon monoxide (CO), sulfur oxides (SO_x), and PM_{10}. With the following mitigation measure, this impact will reduce to less-than-significant.

Mitigation AQ-2

Emissions from construction equipment activities will not cause significant air quality impacts due to the relatively small amount of equipment needed and the short duration of construction activities.

Compliance with applicable AQMD rules and/or permit conditions for backup diesel generators at the proposed regeneration stations will ensure that the proposed project will not exceed state and/or federal air quality standards, and will be in conformance with applicable air quality plans during project operation.

As specified by the SCAQMD, the threshold of significance for ROG and NO_x is the emission of greater than 55 pounds per day (10 tons/year) per pollutant, greater than 550 pounds per year (100 tons/year) for CO, and greater than 150 pounds per day (27 tons/year) for SO_x and PM_{10}. Based on the manufacturer's emission factors for the project generators, a significant impact would occur if the 125DGEA is in operation for more than 17 hours per day or 265 days per year, the 250DFAC is in operation for more than 7 hours per day or 107 days per year, and/or the 400DFCE is in operation for more than 4 hours per day or 73 days per year (see table 4.4-3). Operation of the generators in excess of these generator-specific thresholds would require implementation of mitigation measures to offset or reduce the emissions. Operation of the generators below these generator-specific thresholds would be considered to have a less-than-significant impact. At this time, the generators will only be run for one hour every two weeks for testing purposes, and for a short period of time in the event of a power outage. These durations are below the thresholds calculated in the following table. Accordingly, operation of the generators will have a less-than-significant impact to air quality.

Table 4.4-3. Manufacturers Emission Factors for Project Generators

Generator Type	Pollutant	Exhaust Emission Factor (lbs.-HP/hour)	Emissions at Maximum Brake Horsepower (lbs./hour)	Daily Emissions (lbs./day)	Maximum Duration of Daily Operation to Maintain Emissions Below Significance Threshold (hours)	Maximum Days of Operation Per Year to Maintain Emissions Below Significance Threshold (days)
125DGEA (Max BHP – 207)	ROG	0.0022	0.4564	10.9544	24	365
	NOx	0.0152	3.1494	75.5856	17.46	265.59
	CO	0.0187	3.8797	93.1127	24	365
	PM10	0.0009	0.1826	4.3818	24	365
	SO_2 (SOx)	NA	NA	NA	NA	365
250DFAC (Max BHP – 380)	ROG	0.0011	0.4022	9.6526	24	365
	NOx	0.0205	7.7925	187.0193	7.06	107.34
	CO	0.0022	0.8379	20.1096	24	365
	PM10	0.0011	0.4190	10.0548	24	365
	SO_2 (SOx)	0.0012	0.4692	11.2614	24	365
400DFCE (Max BHP – 605)	ROG	0.0007	0.4536	10.8856	24	365
	NOx	0.0188	11.3659	272.7814	4.84	73.59
	CO	0.0054	3.2950	79.0810	24	365
	PM10	0.0005	0.3068	7.3638	24	365
	SO_2 (SOx)	0.0013	0.8004	19.2100	24	365

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact AQ-3

All Regeneration Stations

The proposed regeneration stations will be located in air basins designated non-attainment for PM_{10}. Fugitive dust emissions during grading and site preparation activities will contribute to the existing air quality violation, and site preparation activities will contribute to PM_{10} standard non-attainment. Implementation of Mitigation AQ-1 will reduce impact to a less-than-significant level.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

All Regeneration Stations

No considerable net increases in criteria pollutants are anticipated from the construction and operation of the proposed regeneration stations. Any emissions of criteria pollutants from the regeneration stations will be negligible due to the relatively short time of construction activities. Also, there will be no emission during normal operations other than the occasional operation of generators during testing and in the event of a power outage.

d) Expose sensitive receptors to substantial pollutant concentrations?

All Regeneration Stations

No substantial pollutant concentrations are anticipated from the construction or operation of the proposed regeneration stations. Small quantities of air pollutants in the form of emissions from construction vehicles, infrequent generator operations, and fugitive dust emissions will originate from the project site. These emissions will be short in duration and would occur during the construction period or when the backup generators would operate during testing or in the event of a power outage.

The nearest sensitive receptors to the project sites are residences in the vicinity of the proposed Twentynine Palms Regeneration Station site, the Linn Regeneration Station site, and Apple Valley Regeneration Station site. These receptors will not be affected by emissions from the proposed stations due to their short duration and the described mitigation measures. By meeting federal and state ambient air quality standards, the project will not expose sensitive receptors to pollutants.

e) Create objectionable odors affecting a substantial number of people?

All Regeneration Stations

The proposed regeneration station sites are located in rural, commercial, or industrial areas, with a limited population in the vicinity. Odors from these project sites may occur from diesel equipment emissions during construction and infrequent backup generator operation. Less-than-significant impacts are expected, as odors will be localized and temporary.

This page left intentionally blank.

4.5 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

ON-ROW

The proposed ROW from Blythe, California, to Los Angeles, California, proceeds from a less developed environment with several arid natural community types in the east, to an increasingly urban, highly developed environment, near the western terminus of the alignment. Natural communities located along the system are primarily creosote bush scrub, Joshua tree woodland, desert saltbush scrub, big sagebrush scrub, Venturan sage scrub, Mojave wash scrub, valley freshwater marsh, Sonoran cottonwood-willow riparian forest, Mojave riparian forest, and southern cottonwood-willow riparian forest. Desert washes

and intermittent streams are present throughout the system and agricultural fields exist at the eastern terminus near Blythe. The majority of the telecommunication system will be installed within existing road ROWs, which are devoid of vegetation. Most land in the ROWs is managed on a regular basis to control vegetative growth.

This section will discuss habitat types present within the project boundaries, as well as sensitive plant and wildlife species that may depend on these habitats. CDFG's Natural Diversity Database (CNDDB) 2000 (CDFG 2000a) was searched to identify reports of specific sensitive species occurrences within the vicinity of the system. From July 1999 through October 2000, SWCA Inc. Environmental Consultants (SWCA) conducted a sensitive species habitat survey along the system - from the Colorado River at the state border to Los Angeles, California. A sensitive plant survey was conducted in May 2001, and modifications to the original corridor were surveyed in August 2001. In addition, ENTRIX biologists conducted a reconnaissance level survey of the proposed system and the regeneration station sites in December 2000 and February 2001. Results of these surveys and of the CNDDB search were used to evaluate sensitive species potentially impacted by construction of the telecommunication system.

Creosote Bush Scrub

Creosote bush scrub occupies most of the area of the proposed project system in California, although the associated species vary with location. Creosote bush scrub communities are typically dominated by creosote bush (*Larrea tridentata*) and burro-weed (*Ambrosia dumosa*), often with some combination of winterfat (*Krascheninnikovia lanata*), box thorn (*Lycium* spp.), cheese bush (*Hymenoclea salsola*), brittlebush (*Encelia farinosa*), prickly-pear cactus (*Opuntia* spp.), big galleta grass (*Pleuraphis rigida* = *Hilaria r.*), and saltbush (*Atriplex* spp.). In the Mojave Desert, Mormon tea (*Ephedra nevadensis*) is also frequently present in vegetation dominated by creosote bush.

Creosote bush scrub represents habitat for reptile species such as desert iguana, Great Basin collared lizard, flat-tailed horned lizard, leaf-nosed snake, and Mojave rattlesnake. Birds such as rough-legged hawk, western screech owl, burrowing owl, lesser nighthawk, gray flycatcher, hermit thrush, northern mockingbird, and Brewer's sparrow were also recorded in this habitat (CDFG 2000b). Merriam kangaroo rat, desert shrew, pocket gopher, several pocket mice and kangaroo rats, long-tailed weasel, antelope ground squirrel, and many other mammals have been observed in or near creosote bush scrub habitat (Miller and Stebbins 1964).

Joshua Tree Woodland

Joshua tree (*Yucca brevifolia*) woodland typically occurs as a transitional zone between lower elevations of creosote bush scrub and higher elevations of pinyon-juniper woodland. This woodland type is generally open and lacks other tree species, although numerous shrub species are generally present. There is little or no herbaceous understory most of the year. Many species of ephemeral herbs may germinate following sufficient late fall or winter rains and then flower in mid-spring. Along the proposed project system, Joshua trees are found west and north of Twentynine Palms. Individuals are widely spaced when present, and this vegetation might be more appropriately described as creosote bush scrub with occasional Joshua trees. However, this vegetation is described separately here because some wildlife species such as the Scott's oriole have a strong preference for areas with Joshua trees.

Common plant species along the proposed system include Joshua tree, creosote bush, Mormon tea, California buckwheat (*Eriogonum fasciculatum*), big galleta grass, and Mexican bladder sage (*Salazaria mexicana*).

Joshua tree woodlands represent habitat for species such as the red-spotted toad, southwestern toad, night lizard, spiny lizard, western fence lizard, common kingsnake, western diamondback rattlesnake, ladder-backed woodpecker, turkey vulture, American kestrel, sharp-shinned hawk, Scott's oriole, cactus wren,

and loggerhead shrike. Common mammals include antelope ground squirrel, black-tailed jackrabbit, desert cottontail, desert woodrat, San Diego pocket mouse, and cactus mouse (CDFG 2000b).

Desert Dry Wash Woodland

Desert dry wash woodland is a riparian thorn scrub woodland distributed in larger washes and arroyos throughout the lower Mojave and Colorado deserts. The sandy or gravelly substrate is frequently rearranged by surface flows. This woodland has an open canopy, is dominated by microphyllus, drought-deciduous trees, and can attain a height of 30 to 60 feet. Dominant species include palo verde (*Cercidium floridum*), smoke tree (*Psorothamnus spinosus*), and catclaw acacia (*Acacia greggii*). Other floral species typically occurring in desert dry wash woodland include desert lavender (*Hyptis emoryi),* indigo bush (*Psorothamnus schottii),* and ironwood (*Olneya tesota*).

The banks of dry wash channels included within riparian areas are often used by burrowing mammals and reptiles (Hartman 1998). Mammalian species associated with desert dry wash woodland habitat can include desert kangaroo rat, white-tailed antelope squirrel, Audubon's cottontail, black-tailed jackrabbit, kit fox, and coyote. Bird species found in this habitat include Bewick's wren, Brewer's sparrow, house finch, and white-crowned sparrow. Reptile species such as desert tortoise, desert iguana, and the side-blotched lizard use desert dry wash woodland for protective cover (Hartman 1998).

Desert Saltbush Scrub

Desert saltbush scrub occupies portions of the proposed project system, especially where the system crosses low-lying areas near playas. This vegetation consists of low, grayish, small-leaved shrubs, with some succulent species. Common species include various species of saltbush (*Atriplex* spp.), spiny hopsage (*Grayia spinosa*), cheese bush, and box thorn. Along the proposed project system, this vegetation type is most common at the west end of the Mojave Desert, where four-wing saltbush (*Atriplex canescens*) is common.

Desert saltbush scrub communities represent habitat for common species such as Great Basin spadefoot, red-spotted toad, side-blotched lizard, desert horned lizard, sidewinder, northern harrier, sage grouse, red-tailed hawk, common ground-dove, greater roadrunner, western screech owl, northern flicker, horned lark, sage thrasher, common raven, and several species of sparrows and bats. California ground squirrel, black-tailed jackrabbit, coyote, and many species of kangaroo rats, woodrats, and pocket mice have also been recorded in desert scrub habitat (CDFG 2000b).

Big Sagebrush Scrub

Big sagebrush scrub is dominated by big sagebrush (*Artemisia tridentata*). Associated species vary somewhat with location, as this vegetation type is found at scattered locations in interior cismontane southern California and across the Mojave and Sonoran deserts at higher elevations, in addition to its extensive distribution through the Intermountain West. This vegetation type usually occurs between 4,000 and 9,000 feet in elevation. Along the proposed project system, this vegetation is found from the eastern slopes of Soledad Pass west through Soledad Canyon and into Tick Canyon. Associated species include four-wing saltbush, rabbit brush (*Chrysothamnus* spp.), California buckwheat, and California juniper (*Juniperus californica*). Near the western end of the proposed system, this vegetation gradually transitions into Venturan sage scrub, described below.

Common animal species associated with big sagebrush habitat include western toad, Pacific tree frog, western banded gecko, zebra-tailed lizard, desert spiny lizard, sagebrush lizard, racer, striped whipsnake, turkey vulture, northern harrier, sharp-shinned hawk, ferruginous hawk, chukar, mountain plover, mountain quail, greater roadrunner, white-throated swift, pinyon jay, desert cottontail, black-tailed jackrabbit, golden-mantled ground squirrel, white-eared pocket mouse, porcupine, gray fox, ringtail, and many species of bats, mice, and kangaroo rats.

Venturan Sage Scrub

Venturan sage scrub is dominated by soft-woody shrubs, including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and several species of sage (*Salvia* spp.). This vegetation type occupies the westernmost part of the proposed project system, along Mint Canyon, although elements of this scrub community are found in the big sagebrush scrub. Along the proposed system, the common species include California sagebrush, California buckwheat, chaparral yucca (*Yucca whipplei*), yerba santa (*Eriodictyon* sp.), and sage (*Salvia* sp.). Most common wildlife species associated with desert big sagebrush scrub, described above, are also found in adjacent sage scrub habitat.

Mojave Wash Scrub

The system from Blythe to Los Angeles, California crosses many desert washes. Desert washes along the project route are usually unnamed. Mojave wash scrub is found in the washes and arroyos of the Mojave Desert, usually below about 5,000 feet (in this discussion, the vegetation of the washes in Riverside County is included in this type). Typical plant species include smoke tree (*Psorothamnus spinosus*), catclaw (*Acacia greggii*), desert willow (*Chilopsis linearis*), and mesquite (*Prosopis* spp.)

In Riverside County, palo verde (*Cercidium floridum*) is a prominent component of the wash vegetation, and mesquite was also present in some washes. Sixteen of the desert washes in San Bernardino County support smoke trees in the vicinity of the proposed project system. Smoke trees were the only trees in the washes along the proposed project system in San Bernardino County.

Desert slender salamander, California tree frog, long-nosed leopard lizard, tree lizard, California legless lizard, red-naped sapsucker, Pacific slope flycatcher, rock wren, ruby crowned kinglet, hermit thrush, warbled vireo, northern harrier, roadrunner, and many species of warbler and sparrow have been recorded in desert wash areas. Coyote, bobcat, and many species of bats, mice, and woodrats also visit washes.

Valley Freshwater Marsh

Valley freshwater marsh is dominated by herbaceous perennial species, particularly cattails, bulrushes (*Scirpus* spp.), and various sedges. This vegetation type is found only at the Colorado River crossing of the proposed project system.

Sonoran Cottonwood-Willow Riparian Forest

Sonoran cottonwood-willow riparian forest is dominated by Fremont cottonwood (*Populus fremontii*), with a dense understory of several willow species (*Salix* spp.). Remnants of this vegetation type are present in the vicinity of the Colorado River crossing on the proposed project system.

Mojave Riparian Forest

Mojave riparian forest is a relatively open streamside forest dominated by Fremont cottonwood, Goodding's black willow (*Salix gooddingii*), and red willow (*Salix laevigata*). This vegetation type is usually found below about 4,000 feet in elevation. Oro Grande Wash, Big Rock Wash and Little Rock Wash are vegetated by Fremont cottonwood where the proposed project system crosses the drainages. Remnants of this vegetation are also present upstream and downstream of the SR 18 bridge where the proposed project system crosses the Mojave River. Scattered mulefat shrubs (*Baccharis salicifolia*) are found nearer the bridge. The bed of the river is unvegetated except for scattered herbaceous species such as evening primrose (*Camissonia* sp.) and buckwheat (*Eriogonum* sp.).

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest is an open, streamside forest dominated by Fremont cottonwood, black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), and several tree willows. It is

found adjacent to the proposed project system along Tick Canyon, Mint Canyon, Placerita Creek, Newhall Creek, and Santa Clara River.

In each of the above riparian forests, water serves as an important resource for wildlife in surrounding habitats. Many species of invertebrates, birds, amphibians, and mammals visit the area to drink, breed, or forage (Miller and Stebbins 1964).

Pacific tree frog, Great Plains toad, northern leopard frog, bullfrog, western whiptail, and zebra-tailed lizard are among the common amphibian and reptile species found in intermittent stream communities. Common bird species include verdin, northern pygmy owl, American kestrel, osprey, belted kingfisher, phainopepla, common poorwill, cliff swallow, common raven, black-tailed gnatcatcher, roadrunner, Costa hummingbird, spotted towhee, Townsend's warbler, and mockingbird (CDFG 2000b). Water in these intermittent streams presents a valuable resource for several species of sparrows, quail, finches, and bats, as well as pocket mice, woodrats, coyote, deer, mountain sheep, and others (Miller and Stebbins 1964).

Two perennial waterways, the Colorado River and the Los Angeles River, cross the system between Blythe and Los Angeles. Both waterways are year-round sources of water, and the Colorado River provides quality habitat for numerous plant and wildlife species. The Los Angeles River exists in an urban setting, is concrete-lined, and has no associated habitat to support special-status species. Many species that use riparian forest habitat, described above, also use perennial waters.

Several small irrigation canals are crossed by the system, primarily near Blythe, but also in Los Angeles County. The Colorado River Aqueduct is crossed in several places, as is the California Aqueduct (west of Apple Valley and south of Palmdale), and the Los Angeles Aqueduct (north of San Fernando). Tijunga Wash, a small, concrete-lined drainage in urban Los Angeles County, contains no associated habitat to support special-status species.

Special-Status Biological Resources

The following discussion describes the plant and wildlife species that have been afforded special recognition by federal, state, or local resource agencies and organizations. This discussion summarizes species addressed in previous biological studies of the site, and species that have been added to state and federal sensitive species lists since those studies were conducted. Special-status biological resources also include unique habitats or plant communities that are of relatively limited distribution, or are of particular value to wildlife. Sources used for the determination of biological resources status are as follows:

- Plants – CDFG (2000a, 2000c and 2000d), and Skinner and Pavlik (1994).
- Wildlife – CDFG (2000a and 2000e), and Williams (1986).
- Habitats – CDFG (2000a) and Holland (1986).

An electronic search of the CNDDB and Wildlife Habitat Relationships (WHR) Database found that 50 plant and 48 wildlife species were reported to occur within the vicinity of the project system. However, habitat for only 32 of the plant and 38 of the wildlife species was recorded along the proposed project system.
Table 4.5-1 shows federal and state special-status plant species identified in the general area of the proposed system from Blythe to Los Angeles, including listing status and potential for occurrence. Table 4.5-2 shows federal and state special-status animal species that have been identified in the same general area. Following each table, life history information is described for special-status species for which habitat is present in or near the construction ROW. Plant and animal species for which no habitat is present along the project system (as shown in Table 4.5-1 and 4.5-2) or whose species range is outside of the project system, are not discussed further in this report.

Table 4.5-1 Special-status Plants Potentially Occurring at the Project Site

Species	Listing Status	Habitat and Elevation in Which Species is Found	Growth Form	Flowering Period	Potential for Occurrence
Angel trumpets *Acleisanthes longiflora*	CNPS 2	Sonoran desert scrub. Only known in California from Riverside County, generally on limestone. 10-2500m.	perennial herb	May	Yes, reported from Phoenix to Los Angeles section of project
Small-flowered androstephium *Androstephium breviflorum*	CNPS 2	Mojavean desert scrub, desert dune. 270-1600m.	perennial herb, bulbiferous	Mar-Apr	Yes
Parish's rock cress *Arabis parishii*	FSC, CNPS 1B	Pebble plain, pinyon-juniper woodland, and upper montane coniferous forest, generally found on pebble plains on clay soil with quartzite cobbles, sometimes on limestone. 1770-2900m.	perennial herb	Apr-May	No, project elevation too low
Shockley's rock cress *Arabis shockleyi*	CNPS 2	Pinyon-juniper woodland, on ridges, rocky outcrops and openings on limestone or quartzite, usually in pinyon or pinyon-juniper series. In California, only in Inyo and San Bernardino Counties. 875-2205m.	perennial herb	May-Jun	Yes
San Gabriel manzanita *Arctostaphylos gabrielensis*	FSC, CNPS 1B	Chaparral, rocky outcrops. 1500 m.	evergreen shrub	Mar	No, project elevation too low
Cushenbury milk-vetch *Astragalus albens*	FE, CNPS 1B	Joshua tree woodland, Mojave desert scrub, pinyon-juniper woodland, sandy or stony flats, rocky hillsides, canyon washes, and fans, on granite or mixed granitic-calcareous debris. 1095-2000m.	perennial herb	Mar-May	Yes, but most of project elevation too low
Braunton's milk-vetch *Astragalus brauntonii*	FE, CNPS 1B	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, recent burns or disturbed areas, in stiff gravelly clay soils overlying granite or limestone. 4-640m.	perennial herb	Mar-Jul	Yes
San Antonio milk-vetch *Astragalus lentiginosus* var. *antonius*	FSC, CNPS 1B	Lower montane coniferous forest, upper montane coniferous forest, and dry slopes in open yellow pine forest. Only in Los Angeles and San Bernardino Counties. 1500-2600m.	perennial herb	Apr-Jul	No, project elevation too low
Big Bear Valley milk-vetch *Astragalus lentiginosus* var. *sierrae*	FSC, CNPS 1B	Mojave desert scrub, meadows, pinyon-juniper woodland, upper montane coniferous forest, stony meadows and open pinewoods, sandy and gravelly soils in a variety of habitats. 1800-2600m.	perennial herb	Apr-Aug	No, project elevation too low
Big Bear Valley woollypod *Astragalus leucolobus*	FSC, CNPS 1B	Lower montane coniferous forest; pebble plain, pinyon-juniper woodland, upper montane coniferous forest, dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt. 1670-2515m.	perennial herb	May-Jul	No, project elevation too low
Coastal dunes milk-vetch *Astragalus tener* var. *titi*	FE, CE, CNPS 1B	Coastal bluff scrub, coastal dunes, known only from a few extant occurrences, mostly historical in Southern California; moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean, one site on a clay terrace. 1-50m	annual herb	Mar-May	No, habitat not present
Parish's brittlescale *Atriplex parishii*	FSC, CNPS 1B	Alkali meadows, vernal pools, chenopod scrub, playas, usually on drying alkali flats with fine soils. 4-140m.	annual herb	Jun-Oct	Yes

Species	Listing Status	Habitat and Elevation in Which Species is Found	Growth Form	Flowering Period	Potential for Occurrence
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	CNPS 1B	Coastal bluff scrub, coastal scrub, alkaline soil. 3-250m.	annual herb	Apr-Oct	Yes
Nevin's barberry *Berberis nevinii*	FE, CE, CNPS 1B	Chaparral, cismontane woodland, coastal scrub, riparian scrub; on steep, north-facing slopes or in low-grade sandy washes. 290-1575m.	evergreen shrub	Mar-Apr	Yes
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	FSC, CNPS 1B	Chaparral, coastal scrub, shaded foothill canyons, often on grassy slopes. 420-760m.	perennial herb, bulbiferous	Mar-May	Yes
Plummer's mariposa lily *Calochortus plummerae*	FSC, CNPS 1B	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest, occurs on rocky and sandy sites, usually of granitic or alluvial material. 90-1610m.	perennial herb, bulbiferous	May-Jul	Yes
Alkali mariposa lily *Calochortus striatus*	FSC, BLM, CNPS 1B	Chaparral, chenopod scrub, Mojavean desert scrub, meadows; alkaline meadows and ephemeral washes. 90-1595m	perennial herb, bulbiferous	Apr-Jun	Yes
Peirson's morning-glory *Calystegia peirsonii*	FSC, CNPS 4	Chaparral, coastal scrub, chenopod scrub, cismontane woodland, lower montane coniferous forest, often in disturbed areas or along roadsides or in grassy, open areas. 30-1500m.	perennial herb, rhizomatous	May-Jun	Yes
Santa Barbara morning-glory *Calystegia sepium* ssp. *binghamiae*	CNPS 1A	Coastal marshes. 0-30m. Possibly extinct.	perennial herb, rhizomatous	Apr-May	No, habitat not present
Pygmy poppy *Canbya candida*	CNPS 4*	Joshua tree woodland, Mojave desert scrub, sandy places. 725-1250m	annual herb	Mar-Jun	Yes
Mt. Gleason Indian paintbrush *Castilleja gleasonii*	FSC, CR, CNPS 1B	Lower montane coniferous forest, on open flats or slopes in granitic soil. Restricted to the San Gabriel Mountains. 1650-1830m	perennial herb, hemiparasitic	May-Jun	No, project elevation too low
Flat-seeded spurge *Chamaesyce platysperma*	FSC, BLM, CNPS 1B	Sonoran desert scrub, desert dunes, sandy places, or shifting dunes. 60-950m.	annual herb	Feb-Sep	Yes
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	FC, CNPS 1B	Coastal scrub, sandy soils. 1000-1700m. Possibly extinct.	annual herb	Apr-Jun	Yes
Slender-horned spineflower *Dodecahema leptoceras*	FE, CE, CNPS 1B	Chaparral, coastal scrub (alluvial fan sage scrub), flood deposited terraces and washes. 200-760m.	annual herb	Apr-Jun	Yes
Parish's daisy *Erigeron parishii*	FT, CNPS 1B	Mojave desert scrub, pinyon-juniper woodland, Joshua tree woodland; often on carbonate, limestone mountain slopes, often associated with drainages. Known only from Riverside and San Bernardino Counties. 1090-2000m.	perennial herb	May-Jun	No, project elevation too low
Johnston's buckwheat *Eriogonum microthecum* var. *johnstonii*	FSC, CNPS 1B	Subalpine coniferous forest, upper montane coniferous forest, slopes and ridges on granite or limestone. Known only from Los Angeles and San Bernardino Counties. 2210-2900m.	deciduous shrub	Jul-Sep	No, project elevation too low
Cushenbury buckwheat *Eriogonum ovalifolium* var. *vineum*	FE, CNPS 1B	Mojave desert scrub, pinyon-juniper woodland, Joshua tree woodland, limestone mountain slopes; dry, usually rocky places. 1400-2440m.	perennial herb	May-Aug	No, project elevation too low

Species	Listing Status	Habitat and Elevation in Which Species is Found	Growth Form	Flowering Period	Potential for Occurrence
Foxtail cactus *Escobaria vivipara* var. *alversonii (=Coryphantha a.)*	FSC, BLM, CNPS 4*	Mojave desert scrub, Sonoran desert scrub. Sandy or rocky habitat, 75-1525m.	shrub (stem succulent)	Apr-Jun	Yes, species reported from Phoenix to Los Angeles section of project
San Bernardino mountains gilia *Gilia maculata (=Linanthus maculatus)*	FSC, BLM, CNPS 1B	Desert dunes, Joshua tree woodland, Mohavean desert scrub, Sonoran desert scrub, sandy. 195-2,075 m.	annual herb	Mar-May	Yes, but not reported from project quads
Los Angeles sunflower *Helianthus nuttallii* ssp. *Parishii*	FSC, CNPS 1A	Marshes and swamps (coastal salt and freshwater). 5-500m. Possibly extinct.	Perennial herb, rhizomatous	Aug-Oct	Yes, if small areas of freshwater marsh are present in drainages
Santa Susana tarplant *Hemizonia minthornii (=Deinandra m.)*	FSC, CR, CNPS 1B	Chaparral, coastal scrub, on sandstone outcrops and crevices, in shrubland. Known only from Los Angeles and Ventura Counties. 280-775m.	deciduous shrub	Jul-Nov	Yes
Coulter's goldfields *Lasthenia glabrata* ssp. *Coulteri*	FSC, CNPS 1B	Coastal salt marshes, playas, valley and foothill grassland, vernal pools, alkaline soils in playas, sinks, and grasslands. 1-1400m.	annual herb	Feb-Jun	Yes
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	CNPS 1B	Chaparral, coastal scrub, dry soils, shrubland. 1-945m	annual herb	Jan-Jul	Yes
San Gabriel linanthus *Linanthus concinnus*	FSC, CNPS 1B	Lower montane coniferous forest, upper montane coniferous forest; dry rocky slopes, often in Jeffrey pine/ canyon oak forest. 1575-2545m.	annual herb	Apr-Jul	No, project elevation too low
Sand linanthus *Linanthus arenicola*	CNPS 2	Joshua tree woodland, Mojavean desert scrub, desert dunes; sandy soils. In California, known only from Inyo and San Bernardino counties. 180-1400m.	annual herb	Mar-Apr	Yes
Baldwin Lake linanthus *Linanthus killipii*	FSC, CNPS 1B	Alkaline meadows, pebble plain, pinyon-juniper woodland, upper montane coniferous forest; usually on pebble plains with other rare species. 1700-2400m.	annual herb	May-Jul	No, project elevation too low
Davidson's bush mallow *Malacothamnus davidsonii*	FSC, CNPS 1B	Coastal scrub, riparian woodland, chaparral; sandy washes. 180-855m.	deciduous shrub	Jun-Sep	Yes
Mojave monkeyflower *Mimulus mohavensis*	FSC, BLM, CNPS 1B	Joshua tree woodland, Mojavean desert scrub, dry sandy or rocky washes along the Mojave River. 600-1175m.	annual herb	Apr-Jun	Yes
Robison's monardella *Monardella robisonii*	FSC, BLM, CNPS 1B	Pinyon-juniper woodland, Joshua tree woodland; rocky desert slopes, often among granitic boulders. Known only from Riverside and San Bernardino Counties. 1000-1500m.	perennial herb, rhizomatous	Apr-Oct	Unlikely, most of project elevation too low
Spreading navarretia *Navarretia fossalis*	FT, CNPS 1B	Vernal pools, chenopod scrub, marshes and swamps, playas, in swales and vernal pools, often surrounded by other habitat types. 30-1300m.	annual herb	Apr-Jun	No vernal pools reported in proposed project route.
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	FSC, BLM, CNPS 1B	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland, riparian woodland; sandy soil or coarse, granitic loam. 425-1800m.	shrub, stem succulent	Apr-Jun	Yes, reported from Phoenix to Los Angeles section of project

Species	Listing Status	Habitat and Elevation in Which Species is Found	Growth Form	Flowering Period	Potential for Occurrence
California Orcutt grass *Orcuttia californica*	FE, CE, CNPS 1B	Vernal pools. Known only from Southern California and Baja. 15-660m.	annual herb	Apr-Jun	No vernal pools reported in proposed project route.
Rock Creek broomrape *Orobanche valida* ssp. *Valida*	FSC, CNPS 1B	Chaparral, pinyon-juniper woodland, on slopes of loose decomposed granite, parasitic on various chaparral shrubs. 1705-1820m.	perennial herb, parasitic	May-Jul	No, project elevation too low
Cushenbury oxytheca *Oxytheca parishii* var. *goodmaniana*	FE, CNPS 1B	Pinyon-juniper woodland. Ridge north of Holcomb Valley on the north edge of the San Bernardino Mountains on limestone talus and rocky slopes. 1300-2375m.	annual herb	May-Sep	No, project elevation too low
Lobed ground-cherry *Physalis lobata*	CNPS 2	Mojavean desert scrub, playas; decomposed granite soil, alkaline dry lakes. In California, known only from San Bernardino County. 500-800m.	perennial herb	Sep-Jan	Yes
Parish's alkali grass *Puccinellia parishii*	FSC, CNPS 1B	Meadows and seeps, alkali springs and seeps in deserts. 695-1000m.	annual herb	Apr-May	Yes
Parish's gooseberry *Ribes divaricatum* var. *parishii*	FSC, CNPS 1B	Riparian woodland, swales in riparian habitats. 60-305m.	deciduous shrub	Feb-Apr	Yes
Salt spring checkerbloom *Sidalcea neomexicana*	CNPS 2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. 0-1500m.	perennial herb	Mar-Jun	Yes
Mason's neststraw *Stylocline masonii*	FSC, CNPS 1B	Chenopod scrub, pinyon-juniper woodland, sandy washes. 100-1200m.	annual herb	Mar-May	Yes
Jackass-clover *Wislizenia refracta* ssp. *refracta*	CNPS 2	Playas, desert dunes, Mojavean desert scrub, Sonoran desert scrub, sandy washes, roadsides, alkaline flats. 130-800m.	annual herb	Apr-Nov	Yes

FE = listed as endangered under the federal Endangered Species Act
FT = listed as threatened under the federal Endangered Species Act
FSC = federal species of concern
FC = candidate for listing as endangered or threatened under the federal Endangered Species Act
BLM = Bureau of Land Management special status plant
CE = protected as endangered by the state of California
CT = protected as threatened by the state of California
CR = protected as rare by the state of California
CNPS = California Native Plant Society
1A = plants believed to be extinct in California
1B = Plants rare or endangered in California and elsewhere
2 = Plants rare or endangered in California, but more common elsewhere
4 = Plants of limited distribution [a watch list]
* = CNPS status recently changed

Special-Status Plant Species

The California Native Plant Society (CNPS) is a private, non-profit organization that works closely with CDFG. CNPS maintains an inventory of rare and endangered plants throughout California. This inventory was searched for records of special-status species occurring in the vicinity of the Plan Area. Several CNPS plant species were identified as potentially occurring in the project alignment. Those special-status plant species that are federally-listed are discussed further below.

Cushenbury milk-vetch (*Astragalus albens***) - Federally Endangered, CNPS 1B.** This perennial species is found in Joshua tree woodland, Mojave desert scrub, and pinyon and juniper woodland on sandy or stony flats, rocky hillsides, canyon washes, and alluvial fans, on granite or mixed granitic-calcareous debris at elevations from 1095 to 2000 meters. It flowers from March to May. Where the western end of

the proposed project system passes through Soledad Pass, the system reaches the lower elevation range of this species. However, the known locations in the same U.S. Geological Survey (USGS) quads as the proposed project system are not in the vicinity of Soledad Pass, and the species was not reported during project surveys.

Braunton's milk-vetch (*Astragalus brauntonii***) - Federally Endangered, CNPS 1B**. This perennial species is found in closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland, on recent burns or disturbed areas, in stiff gravelly clay soils overlying granite or limestone at elevations from 4 to 640 meters. It flowers from March to July. The western end of the proposed project system passes through areas where this species is potentially present. However, collections in the same USGS quads as the proposed system are from the early 1900's, and the species was not reported during project surveys.

Nevin's barberry (*Berberis nevinii***) - Federally Endangered, California Endangered, CNPS 1B.** This evergreen shrub is found in chaparral, cismontane woodland, coastal scrub, and riparian scrub, on steep, north-facing slopes or in low grade sandy washes at elevations from 290 to 1,575 meters. It flowers from March to April. The western end of the proposed project system passes through areas where this species is potentially present. However, the only population reported in the same USGS quads as the proposed project system was last reported in 1932 in an area that is now urban, and the species was not reported during project surveys.

San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina***) - Federal Candidate, CNPS 1B.** This annual species was found in coastal scrub on sandy soils at elevations from 1,000 to 1,700 meters. It flowers from April to June. The western end of the proposed project system passes through areas where this species is potentially present. However, the populations previously reported in these areas are non-specific locations from the 1890's to the early twentieth century, and the species was not reported during project surveys.

Slender-horned spineflower (*Dodecahema leptoceras***) - Federally Endangered, California Endangered, CNPS 1B.** This annual species is found in chaparral and coastal scrub (alluvial fan sage scrub) on flood-deposited terraces and washes at elevations from 200 to 760 meters. It flowers from April to June. The western end of the proposed project system passes through areas where this species is potentially present. The nearest reported population is less than 1 mile from the proposed system, but the species was not reported during project surveys.

Santa Susana tarplant (*Deinandra minthornii* = *Hemizonia m.***) - Federal Species of Concern, California Rare, CNPS 1B.** This deciduous shrub is found in chaparral and coastal scrub on sandstone outcrops and crevices at elevations from 280 to 760 meters. It flowers from July to November. The western end of the proposed project system passes through areas where this species is potentially present. However, known populations in the same USGS quad as the proposed project system are several miles west, and the species was not reported during project surveys.

Table 4.5-2 Special-status Animal Species Potentially Occurring within the Project Site

Species	Status		Habitat	Potential for Occurrence
	F	CA		
INVERTEBRATES				
Monarch Butterfly *Danaus plexippus*	-	*SC*	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico; roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	No
Desert Monkey Grasshopper *Psychomastix deserticola*	*SC*		Very arid environments in the vicinity of the San Bernardino Mountains.	No
FISHES				
Arroyo Chub *Gila orcutti*	*SC*	*SC*	Slow-water stream sections with mud or sand bottoms.	Yes (Mojave River and Santa Clara River)
Unarmored Threespine Stickleback *Gasterosteus aculeatus williamsoni*	*E*	~~*E*~~*C* *FP*	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small southern California streams; cool, clear water with abundant vegetation.	Yes (Santa Clara River)
AMPHIBIANS				
Western Spadefoot *Scaphiopus hammondii*	*SC*	*SC*	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Yes (drainages of Los Angeles County)
Arroyo Toad *Bufo microscaphus californicus*	*E*	*SC*	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.; rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Yes (Mojave River, drainages of Los Angeles County)
California Red-Legged Frog *Rana aurora draytonii*	*T*	*SC*	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Yes (drainages of Los Angeles County)
Mountain Yellow-legged Frog *Rana muscosa*	*PE*	*SC*	Riparian areas 4500-12000 ft in elevation.	No
REPTILES				
Southwestern Pond Turtle *Clemmys marmorata pallida*	*SC*	*SC*	Inhabits permanent bodies of water below 6,000 feet elevation.	Yes (drainages of Los Angeles County)
Desert Tortoise *Xerobates agassizii*	*T*	*T*	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Requires friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Yes (San Bernardino and Riverside Counties)
San Diego Horned Lizard *Phrynosoma coronatum blainvillei*	*SC*	*SC*	Coastal sage scrub and chaparral in arid and semi-arid climates; prefers friable, rocky, or shallow sandy soils.	Yes (scattered locations throughout project)
Silvery Legless Lizard *Anniella pulchra pulchra*	*SC*	*SC*	Sandy or loose loamy soils under sparse vegetation; prefers soils with a high moisture content.	Yes (Riverside and Los Angeles Counties)
Two-Striped Garter Snake *Thamnophis hammondii*	-	*SC*	Coastal California from vicinity of Salinas to northwest Baja California, found in or near permanent fresh water, often along streams with rocky beds and riparian growth. From sea level to about 7000 ft elevation.	No
Mohave Fringe-Toed Lizard *Uma scoparia*	-	*SC*	Sandy areas in creosote bush scrub. Range is largely the Mohave desert region.	Yes (Riverside and San Bernardino Counties)
BIRDS				
Great Egret (Rookery) *Ardea alba*	-	*SC*	Colonial nester in tall trees, cliffsides, and sequestered spots in marshes, rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Yes (Colorado River, Mojave River, drainages of Los Angeles County)
Great Blue Heron (Rookery) *Ardea herodias*	-	*SC*	Colonial nester in tall trees, cliffsides, and sequestered spots in marshes, rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Yes (Colorado River, Mojave River, drainages of Los Angeles County)

Species	Status		Habitat	Potential for Occurrence
	F	CA		
Cooper's Hawk *Accipiter cooperii*	-	*SC*	Dense stands of oak and riparian woodland for nesting, grassland for foraging.	Yes (Near Blythe, Los Angeles County)
Prairie Falcon *Falco mexicanus*	-	*SC*	Inhabits dry, open terrain, either level or hilly; breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Yes (Colorado River and Mojave River)
Yuma Clapper Rail *Rallus longirostris yumanensis*	*E*	~~*T*~~*C* *FP*	Nests in fresh-water marshes along the Colorado River and along the south and east ends of the Salton Sea; prefers stands of cattails and tules dissected by narrow channels of flowing water.	Yes (Colorado River)
Western Yellow-Billed Cuckoo *Coccyzus americanus occidentalis*	-	*E*	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems; nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Yes (Colorado River, Mojave River, and drainages of Los Angeles County)
Long-Eared Owl *Asio otus*	-	*SC*	Riparian bottomlands with tall willows and cottonwoods, belts of live oak paralleling stream courses; requires adjacent open land with mice and old nests of crows, hawks, or magpies for breeding.	Yes (Colorado River, Mojave River, drainages of Los Angeles County)
Elf Owl *Micrathene whitneyi*	-	*E*	Nesting area limited to cottonwood-willow and mesquite riparian zone along the Colorado River; nests in deserted woodpecker holes, often in larger trees.	Yes (Colorado River)
Burrowing Owl *Athene cunicularia*	*SC*	*SC*	Non-native grasslands, agricultural fields.	Yes (scattered locations throughout project)
Gila Woodpecker *Melanerpes uropygialis*	-	*E*	Inhabits cottonwoods and other desert riparian trees, shade trees, and date palms, cavity nester in riparian trees or saguaro cactus.	Yes (Colorado River, desert washes in San Bernardino and Riverside Counties)
Gilded Flicker *Colaptes chrysoides*	-	*E*	Sonoran desert habitat and riparian woodlands along Colorado River; uses willows, cottonwood, yucca and saguaro cactus.	Yes (Colorado River, desert washes in San Bernardino and Riverside Counties)
Southwestern Willow Flycatcher *Empidonax traillii extimus*	*E*	*E*	Occurs in densely vegetated riparian habitats, preferring streamside cottonwood and willow, in coastal southern California. Occurs in Los Angeles, San Bernardino, Riverside, and San Diego counties.	Yes (drainages of Los Angeles County)
Vermilion Flycatcher *Pyrocephalus rubinus*	-	*SC*	Inhabits desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open areas; nests in cottonwood, willow, mesquite, and other large desert riparian trees.	Yes (Colorado River, Mojave River, desert washes in San Bernardino and Riverside Counties)
Brown-Crested Flycatcher *Myiarchus Tyrannulus*	-	*SC*	Inhabits desert riparian habitat along the Colorado River, and desert oases and riparian northwest to Victorville. Requires riparian thickets, trees, snags, and shrubs for foraging perches, nesting cavities, and cover.	Yes (Colorado River, Mojave River, desert washes of San Bernardino and Riverside Counties)
Least Bell's Vireo *Vireo bellii pusillus*	*E*	*E*	Summer resident of southern California; inhabits low riparian growth in vicinity of water or in dry river bottoms, below 2000 ft.; nests placed along margins of bushes or on twigs projecting into pathways.	Yes (Colorado River, Mojave River, drainages of Los Angeles County)
Gray Vireo *Vireo vicinior*	-	*SC*	Inhabits dry chaparral, west of desert; forages, nests, and sings in areas formed by a continuous growth of twigs, 1-5 feet above ground.	No
Coastal California Gnatcatcher *Polioptila californica californica*	*T*	*SC*	Obligate, permanent resident of coastal sage scrub below 2500 ft in southern California, low, coastal sage scrub in arid washes, on mesas and slopes.	Yes (Santa Clarita region, Plum Canyon)

Species	Status		Habitat	Potential for Occurrence
	F	CA		
Bendire's Thrasher *Toxostoma bendirei*	-	*SC*	Migratory, local spring/summer resident in flat areas of desert succulent shrub/Joshua tree habitats in Mojave desert; nests in cholla, yucca, paloverde, thorny shrub, or small tree, usually 0.5 to 20 feet above ground.	Yes (Colorado River, Mojave River, desert washes in San Bernardino and Riverside Counties)
Crissal Thrasher *Toxostoma crissale*	-	*SC*	Southeastern deserts in desert riparian and washes; nests in dense vegetation along streams/washes, mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed, willow.	Yes (Colorado River, Mojave River, desert washes in San Bernardino and Riverside Counties)
Le Conte's Thrasher *Toxostoma lecontei*	*SC*	*SC*	Desert resident, primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats; commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	Yes (Colorado River, Mojave River, desert washes in San Bernardino and Riverside Counties)
Yellow Warbler *Dendroica petechia brewsteri*	-	*SC*	Riparian areas; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	Yes (drainages of Los Angeles County)
Sonoran Yellow Warbler *Dendroica petechia sonorana*	-	*SC*	Summer resident of the Colorado River valley, in riparian deciduous habitat, below 600 ft; inhabits cottonwoods and willows, particularly the crown foliage, nests in understory, usually 2-16 feet above ground.	Yes (May still occur along the Colorado River, but is thought to be extirpated in California)
Yellow-Breasted Chat *Icteria virens*	-	*SC*	Summer resident, inhabits riparian thickets of willow and other brushy tangles near watercourses; nests and forages in low, dense riparian, consisting of willow, blackberry, wild grape.	Yes (Colorado River, Mojave River, and drainages of Los Angeles County)
Summer Tanager *Piranga rubra*	-	*SC*	Desert riparian habitat along lower Colorado River, and locally elsewhere in California deserts; requires cottonwood-willow riparian for nesting and foraging, prefers older, dense riparian stands.	Yes (Colorado River, Mojave River)
MAMMALS				
California Leaf-Nosed Bat *Macrotus californicus*	*SC*	*SC*	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats; needs rocky, rugged terrain with mines or caves for roosting.	Yes (San Bernardino city north west of 29 palms in the Mikiska vicinity)
Small-Footed Myotis *Myotis ciliolabrum*	*SC*		Common in California in arid uplands, along the coast in the Sierra Nevada, and in Great Basin and desert habitats; occurs in a variety of habitats, especially arid wooded and brushy uplands near water; seeks cover in caves, buildings, mines, crevices, under bridges, and under bark. 0-9000feet.	Yes
Fringed Myotis *Myotis thysanodes*	*SC*		Wide variety of habitats; optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer; uses caves, mines, buildings or crevices for maternity colonies and roosts.	No (Appropriate habitat not present)
Long-Legged Myotis *Myotis volans*	*SC*		Most common in woodland and forest habitats above 4000 ft; trees are important day roosts, caves and mines are night roosts, nursery colonies usually are under bark or in hollow trees but occasionally in crevices or buildings.	No (Appropriate habitat not present)
Pale Big-Eared Bat *Corynorhinus townsendii pallescens*	*SC*	*SC*	Wide variety of habitats; needs appropriate roosting, maternity, and hibernacula sites free from human disturbance.	Yes
Mohave Ground Squirrel *Spermophilus mohavensis*	*SC*	*T*	Open desert scrub, alkali scrub and Joshua tree woodland; feeds in annual grasslands, restricted to Mohave desert; prefers sandy to gravelly soils; avoids rocky areas; uses burrows at base of shrubs for cover; nests in burrows.	Yes (scattered locations throughout project)

Species	Status		Habitat	Potential for Occurrence
	F	CA		
San Joaquin Pocket Mouse *Perognathus inornatus inornatus*	*SC*		Typically found in grasslands and blue oak savannas; needs friable soils.	No
Colorado Valley Woodrat *Neotoma albigula venusta*	-	*SC*	Low-lying desert areas in southeastern California; closely associated with beaver-tail cactus and mesquite, distribution influenced by abundance of nest building material.	Yes (Riverside and San Bernardino counties)
San Diego Desert Woodrat *Neotoma lepida intermedia*	*SC*	*SC*	Coastal southern California from San Diego County to San Luis Obispo County; moderate to dense canopies preferred; particularly abundant in rock outcrops and rocky cliffs and slopes.	No
Colorado River Cotton Rat *Sigmodon arizonae plenus*	*SC*	*SC*	Colorado River floodplain, isolated sections of alluvial bottom in areas supporting sedges, rushes, and other marsh plants.	Yes (Colorado River)

Status: T = Threatened E = Endangered PT = Proposed Threatened
SC = Species of Special Concern PE = Proposed Endangered CFP = California Fully Protected

The periods during which construction is restricted because of special-status species are presented in table 4.5-3 below.

4.5-3. Construction Timing Constraints for Special-Status Species

Species	From	To
Federal Threatened and Endangered Species		
Yuma clapper rail	April	July
Southwestern willow flycatcher	mid-May	August
Least Bells' vireo	April	August
California red-legged-frog	November	March
Arroyo southwestern toad	May	July
Desert tortoise	Late winter	Early spring
Arizona Hedgehog Cactus	April	June
State Special-Status Species		
Mojave ground squirrel	Estivation begins between July and September	Ends between January and March
~~Swainson's Hawk~~	~~Arrives in March or April from wintering grounds~~	~~August~~
Gilded flicker	March	June
Prairie Falcon	March 15	August 31
Yellow-billed cuckoo	June	July
Federal and State Species of Concern in California		
Bendire's thrasher	February	May
Le Conte's thrasher	February	May
Burrowing owl	~~March~~February 1	~~May~~August 31
Foxtail Cactus	April	May
Little San Bernardino Mountains gilia	April	June

Special-Status Wildlife Species

Fish

Arroyo chubs (*Gila orcutti***) - Federal Species of Concern, California Species of Special Concern.** This species was originally native to the streams of the Los Angeles Plain and several drainages of San Diego County. They have been observed in the Santa Clara River, but they were likely introduced here, as they were in the Santa Ynez, Santa Maria, Cuyama, and Mojave River systems. Arroyo chubs are adapted to surviving in the warm, fluctuating waters of the Los Angeles Plain. They generally prefer the slowest moving sections of the streams with substrates of sand or mud (Moyle 1976). Appropriate habitat for this species is present in the Santa Clara River.

Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) - Federally Endangered, California Endangered. This species was historically distributed throughout southern California but is now restricted to the upper Santa Clara River and its tributaries in Los Angeles and Ventura Counties, and several other small populations. Unarmored threespine sticklebacks are small fish inhabiting slow moving reaches or quiet water microhabitats of streams and rivers. Favorable habitats are usually shaded by dense and abundant vegetation. In more open reaches, algal mats or barriers, such as rocks or fallen wood, may provide refuge (USFWS 1985). Appropriate habitat for this species is present in the Santa Clara River.

Amphibians

Western spadefoot toad (*Scaphiopus hammondii*) - Federal Species of Concern, California Species of Special Concern. The western spadefoot toad ranges throughout the Central Valley and adjacent foothills from sea level to 4,500 feet. In the Coast Ranges, it is found from Point Conception, Santa Barbara County, south to the Mexican border. This species typically occurs in vernal pools (shallow, temporary pools formed by heavy winter rains) in non-native grasslands and, occasionally, in valley-foothill hardwood woodlands. They are rarely found on the surface and spend most of the year in self-constructed underground burrows up to 36 inches deep. Western spadefoot toad breed and lay their eggs in vernal pools (Zeiner et al. 1988). Appropriate habitat to support western spadefoot toad is present in the Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Arroyo toad (*Bufo microscaphus californicus*) - Federally Endangered, California Species of Special Concern. Arroyo toad occurs from sea level to 2,440 meters and has highly specialized habitat requirements. To bread, adults require overflow pools adjacent to the inflow of third or greater order streams that are free of predatory fishes. They prefer exposed, shallow, sand- or gravel-based pools with little marginal, woody vegetation and low velocity. Larvae require a minimum of silt in order to feed, preferring stable, sandy terraces (Jennings and Hayes 1994). Appropriate habitat to support arroyo toad is present in the Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, Soledad Canyon, Newhall Creek, and Santa Clara River. Designated Critical Habitat (Unit 21) for the arroyo toad is located near the Mojave River. The proposed project route will cross Unit 21.

California red-legged frog (*Rana aurora draytonii*) - Federally Threatened, California Species of Special Concern. California red-legged frog habitat is characterized by dense, shrubby riparian vegetation associated with deep, still, or slow-moving water (U.S. Fish and Wildlife Service [USFWS] 2000). Shrubby riparian vegetation dominated by arroyo willow, cattails, and bulrushes is the preferred habitat for this species. Appropriate habitat to support California red-legged frog is present in Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek. Riparian and upland areas along the proposed ROW from Acton west through the Mint Canyon area have been designated by USFWS as Critical Habitat for the California red-legged frog. The project boundary is at least 5 miles from the nearest Critical Habitat Units (28 and 31) for this species.

Reptiles

Southwestern pond turtle (*Clemmys marmorta pallida*) - Federal Species of Concern, California Species of Special Concern. The southwestern pond turtle occurs from south of San Francisco to northwest Baja California and west of the Mojave Desert. The typical habitats are valley locations with slow moving waterways. However, upland habitat and basking sites must be easily available. They spend the winter in underground burrows located in upland habitats. In the warmer months, the pond turtle will bask on rocks and logs near slow-moving streams. Appropriate habitat to support southwestern pond turtle is present in Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, Newhall Creek burrows (Zeiner et al. 1988).

Desert tortoise (*Xerobates agassizii***) - Federally Threatened, California Threatened.** The desert tortoise is the only naturally occurring tortoise in the project area. The desert tortoise is found throughout the Mojave and Colorado Deserts from below sea level to 4,130 feet. It is most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat. This species requires friable, sandy, well-drained soil for excavation of burrows (Zeiner et al. 1988) and plants for both forage and cover. It frequents desert oases, riverbanks, washes, dunes, and occasionally rocky habitat, but is most often found on flats and slopes at the base of mountain ranges. Habitat vegetation is characterized by scattered shrubs with abundant space between for growth of herbaceous plants. 75 percent of burrows are found beneath canopies or lower branches of live or dead shrubs. Desert tortoises spend much of their lives in burrows to regulate body temperature, conserve water, and escape predators (USFWS 1994). They remain in their burrows through the coldest months, emerging to feed and mate during late winter and early spring and remain active through the spring when annual plants are most common. They return to their burrows in late spring when temperatures rise and food becomes scarcer (Murray and Dickinson 1996). Appropriate habitat to support desert tortoise is scattered throughout the proposed system in San Bernardino and Riverside Counties and in Los Angeles County from the Los Angeles/San Bernardino county line to Palmdale.

Mojave fringe-toed lizard (*Uma scoparia***) - California Species of Special Concern.** The Mojave fringe-toed lizard is found throughout the Mojave desert region, in fine sand with sparse vegetation of mostly creosote bush scrub. Its known elevational range extends from below sea level to about 1,000 meters. They bury themselves in the sand both for protection from predators and for thermoregulation. The female deposits from 2 – 5 eggs in sandy hills during the months of May through July (CDFG 1994a and 1994b). Appropriate habitat to support the Mojave fringe-toed lizard are sandy areas in the project area in Riverside and San Bernardino counties.

San Diego horned lizard (*Phrynosoma coronatum blainvillei***) - Federal Species of Special Concern, California Species of Special Concern.** The horned lizard inhabits exposed sandy-gravelly substrates with scattered shrubs, clearings in riparian woodlands, and annual grasslands from below sea level to 6,000 feet. The desert horned lizard is a common year-round resident of lower elevation Great Basin and desert habitats. It is found in all desert shrub types and grass/forb stages of pine-juniper woodlands, but sparse or open habitats are preferred. Sandy soil is preferred for burrowing but they are also found in sandy-gravelly drainage channels. Eggs are laid in well-drained sandy soil (Zeiner et al. 1988). Appropriate habitat to support San Diego horned lizard is scattered throughout the proposed system in Los Angeles County.

Silvery legless lizard (*Anniella pulchra***) - Federal Species of Special Concern, California Species of Special Concern.** This secretive fossorial lizard is found in in the Tehachapi Mountains west of the desert and the mountains of southern California. It is common in habitats with sandy or loose organic soils or adequate leaf litter, especially in coastal dune, valley-foothill, chaparral, and coastal scrub types from sea level to 6,000 feet in the Sierra. Silvery legless lizards sometimes seek cover under surface objects such as flat boards and rocks where they lie barely covered in loose soil, but often bury in leaf litter and near the surface through loose soil. Little is known about specific habitat requirements for courtship and breeding (Zeiner et al. 1988). Appropriate habitat to support silvery legless lizard is scattered throughout San Bernardino and Riverside Counties.

Birds

Great egrets (rookery) (*Ardea alba***) - California Species of Special Concern.** Great egrets nest primarily in habitat associated with marshes, swamps, tidal estuaries, and fresh- and brackish-water margins. They usually nest in colonies, although some nest in isolated pairs. Platform nests are made of sticks and built in shrubs and trees, generally within 40 feet of the ground but sometimes almost 100 feet up in a tree (Ehrlich et al. 1988). They are known to be most sensitive to disturbance early in the nesting

season, prior to incubation (Zeiner et al. 1990a). Once great egrets are incubating, they become fairly resilient to disturbance and do not tend to flush easily. Another sensitive period is for the first month after the chicks hatch. During this time, the adults are more easily flushed, but the chicks should not be left alone on the nests (Zeiner et al. 1990a). The peak sensitivity period begins with the onset of pre-breeding activities in early March and continues until egg-laying is complete, as late as early June. Appropriate foraging and nesting habitat for this species is present in the Colorado River, Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Great blue heron (rookery) (*Ardea herodias***) - California Species of Special Concern.** The great blue heron is fairly common all year throughout California, in shallow estuaries and fresh and saline emergent wetlands and, to a lesser degree, along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills. The species is locally common near rookeries from February through June or July. This species usually nests in colonies in the tops of secluded large snags or live trees, usually among the tallest available, and rarely on ground, rock ledges, sea cliffs, mats of tules, or shrubs. Colonies should be protected from human disturbance, which often causes nest desertion (Zeiner et al. 1990a). Appropriate habitat for this species is present in the Colorado River, Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Cooper's hawk (*Accipiter cooperii***) - California Species of Special Concern.** This species is fairly uncommon within the state, but an influx of migrants from the north increases local populations during winter months. Cooper's hawks prefer dense stands of oak and riparian woodland for nesting and grasslands for foraging. Oak woodlands are suitable nesting habitat and grassland is suitable foraging habitat (Zeiner et al. 1990a). Near Blythe, appropriate foraging habitat for this species is present in both agricultural fields and irrigation canals with associated riparian vegetation. Foraging and nesting habitat is also present in riparian areas such as Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Prairie falcon (*Falco mexicanus***) - California Species of Special Concern.** This species ranges from the southeastern California deserts to the inner Coast Ranges and Sierra Nevada and is an uncommon permanent resident and migrant in the project area. It nests on bluffs and cliff faces. Appropriate nesting habitat for the Prairie Falcon is present in the mud cliffs at the south end of Midland Road and in Los Angeles County west of Palmdale.

Yuma clapper rail (*Rallus longirostris yumanensis***) - Federally Endangered, California Threatened.** Yuma clapper rails nest in freshwater wetlands and brackish marshes along the lower Colorado River. Salt marsh vegetation is an essential requirement. They prefer dense cattails, bulrushes, and other aquatic vegetation (Haynes and Schuetze 1997). Appropriate habitat for this species is present in the riparian zone along the Colorado River.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis***) - California Endangered.** This species is an uncommon to rare summer resident of valley foothill and desert riparian habitats in California, including along the Colorado River. It nests in dense cover on the horizontal limb of a tree or shrub (Zeiner et al. 1990a). Appropriate nesting habitat for this species is present in the riparian zone along the Colorado River.

Long-eared owl (*Asio otus***) - California Species of Special Concern.** This species typically nests in riparian habitats, however, it has been known to nest in live oak thickets and other dense stands of trees. It is a winter visitor in the project area. Long-eared owls typically hunt in open areas, feeding on rodents, small birds, and other vertebrates (Zeiner et al. 1990a). Riparian habitat and blue oak-digger pine woodlands are suitable nesting habitat and non-native grasslands are suitable foraging habitat for this

species. Appropriate wintering habitat for this species is present in the riparian zone along the Colorado River, Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Elf owl (*Micrathene whitneyi***) - California Endangered.** The elf owl is a very rarely seen spring and summer resident of the Colorado River Valley and the oases of Cottonwood Springs and Corn Springs in Riverside County. This species nests in cottonwood, sycamore, willow or mesquite in desert riparian habitat of moderate to open canopy, often with a moderate to sparse shrub understory, and typically bordering desert wash, desert scrub, or grassland habitats. It is absent from desert riparian habitat dominated by saltcedar. It was formerly more numerous along the length of the Colorado River, but now is nearly extirpated due to loss of habitat. Elf owls are dependent on woodpecker-excavated holes for nest sites. They nest in cottonwood, saguaro, willow, sycamore, and mesquite trees or snags of moderate height. Taller trees with a shrub understory seem to be required (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian zone along the Colorado River.

Burrowing owl (*Athene cunicularia***) - Federal Species of Concern, California Species of Special Concern.** These small owls inhabit open grasslands and other habitats throughout North and South America. This year-round resident lives in small colonies and typically nests and roosts in burrow systems created by medium-sized mammals (e.g., ground squirrels), or in artificial sites (e.g., drain-pipes, culverts), or they occasionally dig burrows themselves (Remsen 1978). Appropriate habitat for this species is present throughout the proposed system.

Gila woodpecker (*Melanerpes uropygialis***) - California Endangered.** This species is uncommon to fairly common in southern California, along the Colorado River and near Brawley, Imperial County. It occurs mostly in desert riparian and desert wash habitats but is also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. Numbers have declined greatly in southern California in recent decades. It nests in a cavity in riparian trees or saguaros. Groves of riparian trees, planted shade trees, and date palm orchards also provide cover (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian zone along the Colorado River.

Gilded flicker (*Colaptes chrysoides***) - California Endangered.** The gilded flicker occurs in the Colorado River Valley in southeastern California in desert riparian, desert wash, and Joshua tree habitats. It is probably non-migratory, although few data are available. Their nest cavity is excavated in the soft wood of a snag or dead branch of cottonwood, willow, Joshua tree, or saguaro cactus. Suitable habitat consists of desert riparian woodlands and giant cactus forests with snags for nest cavities (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian zone of the Colorado River.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) - **Federally Endangered, California Endangered.** This species winters in Central and South America and breeds in California from May to September (Thelander 1994). This species occurs in densely vegetated riparian habitats, preferring streamside cottonwood and willow. The subspecies occurs in coastal southern California in Los Angeles, San Bernardino, Riverside, and San Diego Counties. Willow flycatchers nest from sea level up to 8,000 feet and favor open to semi-open brushy habitats (Thelander 1994). Nests are often in willows and other shrubby plants along streams and ponds. Open-cup nests are built on slender branches less than 10 feet above the ground. Females lay three to four eggs in June (Thelander 1994). Incubation is approximately 12 days, and fledging occurs 12 to 16 days after hatching (Thelander 1994). During August and September parents and offspring migrate southward (Thelander 1994). Appropriate habitat for this species is found along drainages in Los Angeles County. Designated Critical Habitat (Unit 1) is located 20 miles south of the project area near the Santa Ana River.

Vermilion flycatcher (*Pyrocephalus rubinus***) - California Species of Special Concern.** This species is a rare, local, year-round resident along the Colorado River, especially near Blythe, Riverside County. A few still breed sporadically in desert oases west and north to Morongo Valley and the Mojave Narrows, San Bernardino County. This species nests in the fork of a horizontal branch in cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas. It is a rare fall and winter visitor throughout the lowlands of southern California from Santa Barbara and Inyo Counties south. Formerly much more common and widespread, it has disappeared entirely from Imperial and Coachella Valleys and has declined along Colorado River, primarily due to loss of habitat (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian zone of the Colorado River.

Brown-crested flycatcher (*Myiarchus tyrannulus***) - California Species of Special Concern.** A fairly common summer resident in desert riparian habitat along the Colorado River. A few nest at Morongo Valley in San Bernardino County and others nest very locally at other desert oases and riparian habitats northwest to the Mojave River near Victorville, San Bernardino County. The species builds its nest of hair, fur, feathers, bark, and shed snake-skins in woodpecker-excavated cavities (Zeiner et al. 1990a). It therefore requires snags, trees with rotten heart-wood, utility poles, or fence posts in which ladder-backed and Gila woodpeckers, and other primary excavators, dig nesting cavities. . Appropriate habitat for this species is present in the riparian zone along the Colorado River.

Least Bell's vireo (*Vireo bellii pusillus***) - Federally Endangered, California Endangered.** Formerly a common and widespread summer resident below 2,000 feet throughout most of the state, the species is now a rare, local, summer resident below 2,000 feet. This subspecies is endemic to California and northern Baja California. It resides in willows and other low, dense valley foothill riparian habitat and lower portions of canyons, mostly in San Benito and Monterey Counties, in coastal southern California from Santa Barbara County south, and along the western edge of the deserts in desert riparian habitat. Nests are often placed on the slender branch of a willow, mesquite, or other shrub or small tree (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian zone along the Colorado River, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek. There is designated Critical Habitat (Unit 2) for this species around the Santa Clara River in Los Angeles County, but the project boundary is at least 6 miles from this Critical Habitat.

Coastal California gnatcatcher (*Polioptila californica californica*) - **Federally Threatened, California Species of Concern.** The California gnatcatcher is a local, uncommon, obligate resident of arid coastal scrub below about 500 meters (1,500 feet) from eastern Orange and southwestern Riverside Counties, south through the coastal foothills of San Diego County. They also occur along the immediate coast at Palos Verdes Peninsula, Los Angeles County, at Camp Pendleton, and in the Tijuana River Valley, San Diego County. They may still occur along lower, coastal slopes of the San Gabriel and San Bernardino Mountains, nesting and for cover. This species is most numerous in low, dense coastal scrub habitat in arid washes, on mesas, and on slopes of coastal hills. California buckwheat, coastal sage, and patches of pricklypear are particularly favored (Zeiner et al. 1990a). The project falls within designated Critical Habitat (Unit 13) for this species in the area northeast of Santa Clarita. Appropriate habitat for this species within the project area is located in coastal sage scrub in Los Angeles County.

Bendire's thrasher (*Toxostoma bendirei***) - California Species of Special Concern.** This species is a very local spring and summer resident and breeder in flat areas of desert succulent shrub and Joshua tree habitats in the Mojave Desert area. It occurs primarily in southwestern San Bernardino County, and also in the Colorado Desert. Migrants appear in California in February and usually depart in August, although fall and winter records are occasionally reported. This species nests in cholla, yucca, paloverde, thorny shrub, or small trees (Zeiner et al. 1990a). Appropriate habitat for this species is present in the riparian

zone along the Mojave River and desert washes in San Bernardino County in desert succulent scrub and Joshua tree habitat.

Crissal thrasher (*Toxostoma crissale*) - California Species of Special Concern. The crissal thrasher is found in desert riparian deciduous woodlands and marshes. They occur where desert streams provide sufficient moisture for a narrow band of deciduous trees and shrubs along the margins (U.S. Department of Agriculture [USDA] 1991). Crissal thrashers are also found in relatively xeric habitats dominated by shrubs and in mesic woodlands that are not too distant from more xeric sites. Some of the important shrubs are honey mesquite and fourwing saltbush. Within xeric sites, bare ground and thickets are characteristic, while snags and dense underbrush form the understory at more mesic sites (Biota Information System of New Mexico [BISON] 2000). Appropriate habitat for this species is present in the riparian zone along the Colorado River.

Le Conte's thrasher (*Toxostoma lecontei*) - Federal Species of Concern, California Species of Special Concern. The Le Conte's thrasher is uncommon to rare in southern California deserts from Inyo County south to the Mexican border, and in the western and southern San Joaquin Valley. It occurs primarily in open desert wash, desert scrub, alkali desert scrub, desert succulent shrub habitats, and Joshua tree habitat with scattered shrubs. This species nests in a dense, spiny shrub or densely branched cactus in desert wash habitat (Zeiner et al. 1990a). Appropriate habitat for this species is present in the Colorado River, Mojave River, and in desert washes in San Bernardino and Riverside Counties in desert scrub and Joshua tree habitat with scattered shrubs.

Yellow warbler (*Dendroica petechia brewsteri*) - California Species of Special Concern. The yellow warbler arrives in California for breeding and nesting in April and usually departs by October. This species is found in riparian habitats consisting of cottonwoods, willows, alders, and other small trees and shrubs typical of riparian woodlands (Zeiner et al. 1990a). Appropriate nesting habitat for this species is present in Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek. Wintering habitat is also available in the riparian zone of the Colorado River.

Sonoran yellow warbler (*Dendroica petechia sonorana*) - California Species of Special Concern. This species breeds in riparian woodlands from coastal and desert lowlands up to 8,000 feet in the Sierra Nevada and also breeds in montane chaparral, in open ponderosa pine, and in mixed conifer habitats with substantial amounts of brush. The species is known from the Colorado River area, and may still exist there, but is thought to have been extirpated from California (Remsen 1978). In summer, it is usually found in riparian deciduous habitats, such as cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. In migration, it visits woodland, forest, and shrub habitats and nests in a deciduous sapling or shrub. Territory often includes tall trees for singing and foraging and a heavy brush understory for nesting (Zeiner et al. 1990a). Appropriate habitat for this species is present in the Colorado River and in desert washes in San Bernardino and Riverside Counties where Yucca, willow, cottonwoods, or other riparian trees are available for nesting.

Yellow-breasted chat (*Icteria virens*) - California Species of Special Concern. This species is an uncommon summer migrant that occupies riparian habitats. It usually arrives in April and departs by late September for wintering in Mexico and Guatemala (Zeiner et al. 1990a). This species typically nests in dense riparian vegetation dominated by shrub species. Appropriate nesting habitat for this species is present in the riparian zone along the Colorado River, Mojave River, Big Rock Wash, Little Rock Wash, Tick Canyon, Mint Canyon, Santa Clara River, Placerita Canyon, and Newhall Creek.

Summer tanager (*Piranga rubra*) - California Species of Special Concern. The summer tanager is an uncommon summer resident and breeder in desert riparian habitat along the lower Colorado River and

very locally elsewhere in southern California deserts. This species is found in additional desert and other localities in migration. It is a rare but regular migrant and winter visitor along the coast, mostly from Los Angeles County southward, but scattered records occur in northern California also. It breeds in mature, desert riparian habitat dominated by cottonwoods and willows, especially older, dense stands along rivers and streams. Its nest is built on a large, horizontal limb of a cottonwood, willow or other riparian deciduous trees (Zeiner et al. 1990a). Appropriate nesting habitat for this species is present in the riparian zone along the Colorado River.

Mammals

California leaf-nosed bat (*Macrotus californicus***) - Federal Species of Concern, California Species of Special Concern.** California leaf-nosed bats range from coastal and eastern California to western New Mexico, and from southeastern Nevada to Baja California and northwestern mainland Mexico. California leaf-nosed bats occur in arid regions, utilizing habitats such as desert scrub and alkali scrub, desert washes and riparian associations, and palm oases (Zeiner et al. 1990b). Like most bats, this species often forages near open water where greater quantities of insects congregate. The species utilizes separate daytime and nighttime roosts. Nursery roosts may also be separate. Day roosts are often in deeper caves or mines, and occasionally in abandoned structures (Zeiner et al. 1990b). Night roosts are in bridges, mines, buildings, overhangs, or other structures with overhead protection (Zeiner et al. 1990b). The species may form colonies of up to 500 individuals (Zeiner et al. 1990b). During reconnaissance surveys, bridges along the proposed project were inspected to determine if they provided roosting habitat. No bridges were found to provide habitat. Appropriate roosting habitat for this species is present in the large geologic formations near the area of Mikiska on SR 247.

Small-footed myotis (*Myotis ciliolabrum)* - **Federal Species of Special Concern.** The small-footed myotis is common in California in arid uplands, along the coast from Contra Costa County south to the Mexican border, on the west and east sides of the Sierra Nevada, and in Great Basin and desert habitats from Modoc to Kern and San Bernardino Counties. It occurs in a variety of habitats, especially arid wooded and brushy uplands near water, from sea level to 9,000 feet. It seeks cover in caves, buildings, mines, crevices, under bridges, and under bark (Zeiner et al. 1990b). Appropriate habitat for this species is located in the large geologic formations near the area of Mikiska on Highway 247.

Pale big-eared bat (*Plecotus townsendii pallescens*) - **Federal Species of Concern, California Species of Concern.** Pale big-eared bat are found in all but alpine and subalpine habitats. They are most abundant in mesic habitats. They require caves, mines, tunnels, buildings, or other manmade structures for roosting. This species is extremely sensitive to disturbance and may abandon a roost if disturbed (Zeiner et al. 1990b). Appropriate habitat for this species is located in the large geologic formations near the area of Mikiska on Highway 247.

Mohave ground squirrel (*Spermophilus mohavensis***) - Federal Species of Concern, California Threatened.** Mohave ground squirrels practice estivation, an annual period of dormancy (West Mojave Planning Team 1999, Thelander and Crabtree 1994). Estivation generally begins between July and September, but may begin as early as April or May during a drought or other local conditions, and ends between January and March. Burrows enter the ground at approximately a 35-degree angle and may have two or more openings (Burt 1936). Mohave ground squirrels are not strongly associated with any particular habitat type, but chiefly inhabit natural desert scrub communities dominated by creosote, saltbush, and blackish. They also inhabit Joshua tree woodlands. These animals occur in most natural habitat types throughout their range except for steep slopes, bedrock areas, and lakebeds. They are also found in several human-created habitats such as alfalfa fields (West Mojave Planning Team 1999, Thelander and Crabtree 1994, Aardahl and Roush 1985, Zembal and Gall 1980, Hoyt 1972). Appropriate burrow habitat for this species is present within saltbush scrub, creosote scrub, and Joshua tree habitat with loose, sandy soils between Victorville and Palmdale.

Colorado Valley woodrat (*Neotoma albigula venusta***) - California Species of Special Concern.** This species is found in extreme southeastern San Bernardino County, central and eastern Riverside County, eastern San Diego County, and throughout Imperial County. It is common in many desert habitats and in pinyon-juniper habitat. In rocky areas, plant litter is piled around a crevice; favored materials include litter of spiny plants (cholla, prickly pear, mesquite, and catclaw), probably because of the added protection from predators they afford. The nest itself is located in the rear of the crevice. Dens also may be constructed against, or beneath shrubs, preferably shrubs or cacti with a lot of near the ground. Such dens can become quite large, reaching 1 meter (3 feet) high and 3 meters (10 feet) in diameter. A grassy nest is located below the ground surface in these dens (Zeiner et al. 1990b). Appropriate habitat for this species is present within the Colorado River floodplain.

Colorado River cotton rat (*Sigmodon arizonae plenus***) - Federal Species of Concern, California Species of Special Concern.** The Colorado River cotton rat is found near the Colorado River and its tributaries in southeastern California and, in Arizona, from Parker to Ehrenberg (Hoffmeister 1986). Cotton rats typically occur in grassy areas and adjacent riparian habitats, but are also found in association with irrigated croplands in some areas (Hoffmeister 1986). Nests are woven in dense patches of grass or in burrows. Appropriate habitat for this species is present within the Colorado River floodplain.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies, or that are afforded specific consideration through CEQA, §1600 of the California Fish and Game Code, and/or §404 of the federal Clean Water Act.

Waters of the United States

Waters of the United States are subject to §404 of the Clean Water Act and are regulated by the U.S. Army Corps of Engineers (ACOE). They include wetlands (e.g., special aquatic sites such as vernal pools and marshes) and other jurisdictional waters, such as lakes, ponds, rivers, and intermittent drainages. Wetlands are defined as "... those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (ACOE 1987). The majority of wetlands considered "jurisdictional" meet three wetland criteria: hydrophytic vegetation (plants that grow in water or very moist ground), hydric soils (wet soils), and wetland hydrology.

As described above under vegetation and wildlife, several potentially jurisdictional Waters of the U.S. are present within the study area. These include perennial streams (e.g., Colorado River), various riparian forests, and desert washes. SWCA has conducted a wetland delineation for the project alignment.

Coastal sage scrub

Coastal sage scrub is characterized by low to moderate-sized shrubs with mesophytic leaves, flexible branches, semi-woody stems growing from a woody base, and a shallow root system. No single species is typical of all coastal sage scrub stands, but southern sage scrub contains California sagebrush, black sage, California buckwheat, and purple sage among others. Wildlife species that may be found in this habitat include western fence lizard, coast horned lizard, roadrunner, bushtit, California thrasher, California towhee, and coyote. This habitat is considered a sensitive habitat by CDFG.

Desert Dry Wash

Desert dry wash woodland is a riparian thorn scrub woodland with an open canopy, is dominated by microphyllus, drought-deciduous trees, and can attain a height of 30 to 60 feet. Dominant species include palo verde, smoke tree, and catclaw acacia. Wildlife species include desert kangaroo rat, white-tailed

antelope squirrel, Audubon's cottontail, black-tailed jackrabbit, kit fox, coyote Bewick's wren, Brewer's sparrow, house finch, white-crowned sparrow desert tortoise, desert iguana, and the side-blotched lizard (Hartman 1998). This habitat is considered a sensitive habitat by CDFG.

Southern alluvial fan scrub

Southern alluvial fan scrub is generally similar to sage scrub but is restricted to floodplain habitats containing riverine cobbles, boulders, and sand. These areas flood only occasionally allowing many upland species to become established. The occasional flooding and sediment reworking is the driving force that maintains this vegetation community. Wildlife species that may occur here are similar to coastal sage scrub. This habitat is considered a sensitive habitat by CDFG.

OFF-ROW

Blythe

The proposed Blythe site is dominated by saltbush scrub with scattered creosote bushes. Part of the site has been disturbed, and vehicle tracks are evident. Vegetation on the southern part of the site appears to have been burnt. Species present at the site include cattle saltbush (*Atriplex polycarpa*) and greasewood (*Sarcobatus vermiculatus*). Tamarisk (*Tamarix* sp.) trees are present in the vicinity.

Rice

The proposed site at Rice is vegetated by creosote bush scrub. The predominant species at this location is white burroweed. On February 3, 2001, dried remains of annuals were visible beneath the shrubs, but the ground between the shrubs was mostly unvegetated.

Twentynine Palms

The proposed Twentynine Palms site is vegetated primarily by creosote bush scrub, but is partly traversed by the braided channel of a wash. On February 2, 2001, numerous annual and perennial species were flowering in and along the channels of this wash, where stream-flow from mountains had run earlier in the winter. Species present included creosote bush, white burrobush, cheeseweed (=*burrobrush*), desert starvine (*Brandegea bigelovii*), browneyes (*Camissonia claviformis* ssp. *claviformis*), evening-primrose (probably *Oenothera deltoides*), spectacle-pod (*Dithyrea californica*), desert needle (*Palafoxia arida* var. *arida*), hairy desertsunflower (*Geraea canescens*), laxflower (*Baileya pauciradiata*), Mojave ragwort (*Senecio mohavensis*), longbeak streptanthella (*Streptanthella longirostris*), sand verbena (*Abronia* sp.), Cooper's broomrape (*Orobanche cooperi*), sandmat (*Chamaesyce* sp.), Emory's rockdaisy (*Perityle emoryi*), lupine (*Lupinus* sp.), white rhatany (*Krameria grayi*), Asian mustard (*Brassica tournefortii*), and several species too immature to identify.

Linn

The proposed Linn site is located in an area dominated by creosote bush scrub. At this site, the scrub is dominated by white burroweed, although remains of creosote bushes are interspersed with the burroweed bushes. Beavertail cactus (*Opuntia basilaris* var. *basilaris*), pencil cactus (*Opuntia ramosissima*), silver cholla (*Opuntia echinocarpa*), and goldenhills (*Encelia farinosa*) are also present. The ground is partly cleared in the vicinity of two small structures on the site. One or two Joshua trees (one a seedling), and two to six Mohave yuccas are present on the site. Unidentifed remains of dried annuals were observed on February 2, 2001, as well as a few dried stalks of desert trumpet (*Eriogonum inflatum*).

Apple Valley

The proposed Apple Valley site is vegetated by creosote bush scrub. The plants present are mostly creosote bush, with the remains of annual species at the bases of the shrubs. The area between the

creosote bushes is mostly bare, except for grayish plant debris. Seedlings, possibly of filaree (*Erodium* sp.), were observed under the debris during the February 2, 2001 survey.

El Mirage

The proposed El Mirage site is vegetated by desert saltbush scrub. The dominant species at this location are cattle saltbush and Russian thistle, although fourwing satlbush is also present. Unidentifiable dried remains of herbaceous species were also present. The site is crossed by a small drainage.

REGULATORY FRAMEWORK

Relevant Regulations

The following sections summarize regulations that are relevant to the biological analysis of the EPGN project.

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA), the USFWS has authority over projects that may affect the continued existence of a federally listed species. Species are defined as Threatened or Endangered by USFWS if they are listed in Title 50 of the Code of Federal Regulations (§§17.11 or 17.12). Section 9 of ESA and federal regulations prohibit the "take" of federally listed species; take is defined under ESA, in part, as killing, harming, or harassment of such species. Under federal regulations, take is further defined to include habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. An incidental "take" permit under Section 10(a), or federal consultation under Section 7, ESA, is required if the project might affect a federally listed species.

For projects where federal action is not involved and take of a listed species may occur, the project proponent must secure an incidental take permit under Section 10(a) of the federal Endangered Species Act. Typically, the Section 10(a) process is initiated when the project proponent proposes an action that may take a listed species, and there is no federal agency with permit authority over the project area. Section 10(a) of ESA allows USFWS/National Marine and Fisheries Service (NMFS) to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to mitigate impacts associated with the take. Following review of the HCP, USFWS/NMFS issues an opinion based on whether the project threatens the continued existence of the species, and would review any plans for avoidance of impacts to the species and its habitat. After the review is completed, USFWS/NMFS releases a determination whether to issue a permit to allow the incidental take.

Take of a federally listed species may be approved through Section 7 consultation between USFWS and another federal agency if the proposed project is sponsored by or under another federal agency's jurisdiction. For example, a Section 7 consultation is applicable when the ACOE issues a Section 404 permit for fill of wetlands. As part of the 404 process, ACOE initiates informal consultation with USFWS/NMFS. Prior to completion of the Biological Assessment (BA), USFWS determines whether the proposed project would have "no effect" on listed Threatened or Endangered species or "may effect" these species. Should USFWS/NMFS render a "may effect" determination, formal consultation would be initiated between USFWS/NMFS and the federal lead agency via submittal of the BA to USFWS/NMFS. A BA evaluates the effects of a project on listed and proposed Threatened and Endangered species. USFWS then prepares a Biological Opinion regarding whether the project would jeopardize the continued existence of the species.

Critical habitat for listed species consists of: (1) specific areas within the geographical area occupied by the species at the time it is listed in accordance with Section 4 of the ESA, on which are found those physical or biological features (constituent elements) that are essential to the conservation of the species and which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with Section 4 of the ESA, determined by the Secretary of the Interior as areas that are essential for the conservation of the species [ESA §3 (5)(A)]. Designated critical habitats are described in 50 CFR §17 and §226.

A Biological Evaluation/BA has been prepared by SWCA for BLM. BLM is completing its final review and will initiate intra-office consultation with USFWS. The final document will address all impacts and mitigation to federally listed and proposed species.

Clean Water Act

Section 404 of the Clean Water Act (CWA) establishes a requirement to obtain a permit prior to any activity that involves any discharge of dredged or fill material into "Waters of the United States", including wetlands. Waters of the United States include navigable waters, interstate waters, all other waters where the use or degradation or destruction of the waters could effect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Pursuant to Section 404 of the CWA, ACOE regulates and issues permits for such activities. Nearly all surface waters and wetlands in California meet the criteria for Waters of the United States, including intermittent streams and seasonal lakes and wetlands. Activities that require a permit under Section 404 include placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that results in the deposit of dredge or fill material within the "Ordinary High Water Mark" of Waters of the United States usually requires a permit, even if the area is dry at the time the activity takes place.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, implements domestically a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former U.S.S.R., which provide for international migratory bird protection, and authorizes the Secretary of the Interior to regulate the taking of migratory birds. MBTA provides that it shall be unlawful, except as permitted by regulations, "at any time, by any means, or in any manner, to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird, included in the terms of conventions" with certain other countries (16 U.S.C. 703). The current list of species protected by MBTA can be found in Title 50, Code of Federal Regulations §10.13. Loss of non-native species, such as house sparrow, European starling, and rock dove, are not covered by this statute.

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), consultation with CDFG is required for projects that could affect a state-listed Threatened or Endangered species. Threatened and Endangered species are listed in Title 14, California Code of Regulations §§670.2 and 670.5. Section 2080 of CESA prohibits "take" of any of these species. The take of state-listed species incidental to otherwise lawful activities requires a permit, pursuant to §2081(b) of CESA. The State has the authority to issue an incidental take permit under Section 2081 of the Fish and Game Code, or to coordinate with USFWS/NMFS during the Section 10(a) process to make the federal permit also apply to state-listed species.

Section 1600 of the California Department of Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream or lake in California that supports wildlife resources is subject to regulation by CDFG, pursuant to §§1600

through 1603 of the California Department of Fish and Game Code. This governs any person, and includes that it is unlawful for any person, to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by CDFG, or use any material from the streambeds, without first notifying CDFG of such activity. Stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG's jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. A CDFG Streambed Alteration Agreement must be obtained for any project that would result in impact to a river, stream, or lake.

State Fish and Game Code §3513 - Adoption of Migratory Bird Treaty Act

Section 3513 of the Fish and Game Code of California provides for adoption of MBTA's provisions. It states, "It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act." Therefore, as with MBTA, this state code offers no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of nongame, migratory birds.

State Fish and Game Code §3503.5 - Protection of Raptors

Section 3503.5 of the State Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds-of-prey in the orders *Falconiformes* or *Strigiformes*." This statute does not provide for the issuance of any type of incidental take permit.

The California Desert Conservation Area Plan 1980

The goal of the California Desert Conservation Area Plan ("Desert Plan") is to provide for the use of the public lands and resources of the California Desert Conservation Area in a manner which enhances wherever possible the environmental, cultural, and aesthetic values of the Desert and its productivity. The Desert Plan provides direction for management actions and resolution of conflicts. New transmission facilities, including those facilities for electricity, gas, water, and telecommunication, are allowed only within designated corridors, and NEPA requirements must be met. Since the El Paso Fiber Optic Line proposed route does not fall entirely within one of these designated corridors, an application for an amendment to the Desert Plan has been submitted to the BLM District Manager, Desert District.

ENVIRONMENTAL IMPACTS

THRESHOLDS OF SIGNIFICANCE

The potential for the proposed system to result in significant environmental effects was analyzed using standards provided in the CEQA Guidelines. Appendix G of the Guidelines suggests the following questions be considered in determining whether a proposed project will result in significant adverse effects to biological resources.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA, because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?

Impact BIO-1

Construction associated with the project could cause damage to or permanent loss of federally or state listed plant species.

Special-status plant populations have been documented along portions of the project system. During the May 2001 survey, short joint beavertail cactus was identified in the Twentynine Palms area, along Border and Reche Roads. Additionally, special-status plants for which marginal or suitable habitat exists have been identified in each county. These species are presented in Appendix F.

System installation activities could result in the disturbance of special-status plants located within and adjacent to the project system, potentially reducing local populations of these species. EPGN will avoid significant impacts by adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project, thereby reducing this impact to a less-than-significant level.

Mitigation BIO-1a

To avoid all effects on threatened, endangered, candidate, and other special-status plant (CNPS List 1B and 2) species located during floristic surveys, the following measures will be implemented:

- Pre-construction floristic surveys shall be completed to identify special-status plant populations in or adjacent to the project system. EPGN shall consult with CDFG to determine areas and species requiring further surveys.
- Exclusion zones shall be established around identified special-status plant populations. Exclusion zones shall be determined by a qualified biologist. Exclusion zones shall be marked on the construction drawings and shall be marked in the field with stakes and flagging. Most construction-related activities shall be prohibited within the exclusion zones. Foot traffic and essential vehicle operation on existing roads will be allowed. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities shall be prohibited within the exclusion zones.
- System installation shall be re-routed around the exclusion zone by lateral shifting or boring beneath the exclusion zone to install the conduits.
- All stakes and flagging demarcating exclusion zones shall be removed within 60 days after construction and site restoration have been completed in the area.

Mitigation BIO-1b

Complete avoidance of some non-listed, special-status plant populations may be considered unwarranted. These species include certain locally common or taxonomically uncertain species that are classified as CNPS List 4/Federal Species of Concern.

For some species, impacts of the proposed project will be less-than-significant, based on: the distribution of the species, the narrow corridor of the system route, and other factors (e.g., timing of installation may avoid the plants' critical reproductive period). For other species, the impact of construction activities

could result in an impact on the local plant population. To avoid significant impacts on CNPS Lists 3 and 4 special-status plants (Appendix F), the following measures shall be implemented:

- Complete floristic surveys in appropriate seasons to determine the presence or absence of CNPS List 4 species in or adjacent to the project corridor.
- Identify plant populations and areas identified as suitable habitat in the construction corridor and staging areas using staking and flagging.
- Conduct construction activities during the period when the plant is not flowering or fruiting.
- Reduce to a less-than-significant level disturbance in areas that support special-status plants by limiting ground disturbance and other activities to the smallest possible corridor.
- Contact the appropriate land management and/or resource agencies after restoration activities are complete and report findings.

Mitigation BIO-1c

Biological monitors shall be present onsite during all pre-construction and construction activities in order to determine the best course of action for avoidance of impacts to sensitive biological resources such as plants that are or may be present onsite.

Impact BIO-2

Construction activities could introduce exotic weeds.

Construction activities could introduce or spread noxious weeds into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degrading sensitive natural communities. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented. EPGN will reduce impacts to a less-than-significant level by implementing the following mitigation measure.

Mitigation BIO-2

To avoid the dispersal of noxious weeds along the ROW, the following mitigation measures shall be implemented:

- Biological monitors shall be onsite to identify noxious weeds and provide guidance on the following mitigation measures.
- Per permitting agency requirements, noxious weed infestation areas shall be identified before construction activities and locations indicated on construction drawings.
- Coordinate with land management agencies to ensure that the appropriate BMPs are implemented. County agricultural commissions and land management agencies shall be contacted to develop lists of target noxious weed species for the project route and discuss measures to avoid the dispersal of noxious weeds.
- Construction supervisors and managers shall be educted on weed identification and the importance of controlling and preventing the spread of noxious weed infestations.
- Equipment shall be cleaned at designated wash stations after leaving noxious weed infestation areas, if deemed necessary by land management agencies. If deemed necessary, wash stations shall be identified by the resource specialists before construction activities begin in a particular segment and shall be approved by the agencies.
- All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts.

- To ensure that fill, seeds, and mulch are free of noxious weeds, on-site sources of fill, mulching, and seeds shall be used when available. Fill, mulch, and seed shall be certified weed-free.
- Certified weed-free imported materials or rice straw (in upland areas) shall be used.

Impact BIO-3

Construction associated with the project has potential to cause adverse impacts to special-status burrowing species and their habitats.

Burrowing species for which habitat exists within the ROW include desert tortoise, San Diego horned lizard, silvery legless lizard, burrowing owl, ~~and~~ Mohave ground squirrel, and Mojave fringe-toed lizard. Each of these species inhabits burrows during at least a portion of its life cycle. Burrows are present within or adjacent to road ROWs ~~throughout most of the system~~ along the route from Blythe to San Fernando.

Construction occurring in the vicinity of burrowing animals could potentially result in the loss of individuals and/or the destruction of occupied burrows. San Diego horned lizard and silvery legless lizard are both California Species of Concern. Habitat for these species is abundant in and adjacent to the project area. Temporary short-term construction associated with the installation of the system would not likely result in significant adverse effects to these species. In addition, implementation of Mitigation BIO-3b, BIO-3c, BIO-4b, and BIO-11 will reduce these potential impacts to a less-than-significant level. For desert tortoise, burrowing owl, ~~and~~ Mohave ground squirrel, and Mojave fringe-toed lizard, EPGN shall adopt the following mitigation measures as part of the construction mitigation strategy of the proposed project. Implementation of the following measures will reduce this impact to a less-than-significant level.

Mitigation BIO-3a

EPGN shall retain qualified USFWS and CDFG-approved biologists ~~(per USFWS and CDFG specifications)~~ to identify the locations of potential burrowing owl, desert tortoise, ~~and~~ Mohave ground squirrel, and Mojave fringe-toed lizard burrows. The locations of these burrows shall be mapped. If it is determined that burrows are occupied by any of the above special-status species, the burrows shall be avoided until an EPGN qualified biologist determines that they have been vacated. Surveys shall be conducted in accordance with agency-approved survey protocols or guidelines.

Mitigation BIO-3b

EPGN qualified biologists shall monitor installation activities on the project in the areas where occupied burrow habitat has been identified. EPGN qualified biologists shall be responsible for staking or flagging occupied burrows and agency required setback buffers, conducting on-site construction monitoring in areas that support special-status burrowing species, documenting violations and compliance, coordination with construction personnel, and post-construction documentation.

EPGN biologists shall also be responsible for completing variance forms and obtaining clearance from the resource agencies for deviations from the mitigation measures (e.g., decreases in exclusion zones).

Mitigation BIO-3c

EPGN shall conduct a biological resource education program for construction crews before construction activities begin. The education program shall include a brief review of the special-status species and other sensitive resources that could occur in the proposed project area, locations where they may be encountered, and their legal status and protection under the California and Federal Endangered Species Acts (CESA and ESA). The education program shall include materials describing sensitive resources,

resource avoidance and mitigation measures, permit conditions, and possible fines for violations of state or federal environmental laws.

Mitigation BIO-3d

Because the proposed project may potentially affect the desert tortoise and other federally-listed threatened or endangered species, an interagency Section 7 consultation is required between BLM and USFWS. This process prohibits federal agencies or federal permit applicants from making irreversible or irretrievable commitment of resources once Section 7 consultation has been initiated. As part of the formal consultation, a BA is being prepared by BLM and will be submitted to USFWS. The BA will evaluate the effects of the proposed project on federally-listed species, including the desert tortoise, and include mitigation measures agreed upon by BLM and USFWS. USFWS will prepare a Biological Opinion that would either concur with measures described in the BA and/or provide appropriate measures to mitigate adverse impacts to federally-listed species. Through this ESA consultation process, additional avoidance, protection, or mitigation measures to reduce adverse impacts to federally-listed species (including desert tortoise) may be identified. EPGN shall incorporate all additional permit conditions identified during the consultation process into construction specifications. EPGN inspectors and qualified biologists shall routinely inspect construction activities to verify that these permit conditions have been implemented.

Mitigation BIO-3e

~~Because the proposed project could potentially affect a state-listed species (e.g., Mohave ground squirrel), a permit pursuant to Section 2081 of the Fish and Game Code is required. Section 2080 of CESA prohibits "take" of any state-listed species. During the permitting process additional measures to avoid or mitigate impact to Mohave ground squirrel may be identified. EPGN shall incorporate all additional permit conditions identified during the permitting process into construction specifications and the EPGN inspectors shall verify that these conditions are implemented.~~Mitigation measures BIO-3a, BIO-3b, BIO-3c, and BIO-3d will reduce potential impacts to the Mohave ground squirrel. These measures are summarized as follows:

- Pre-construction surveys to identify and map currently occupied and active burrows;
- Occupied burrows will be avoided until a qualified biologist determines that they have been vacated;
- Biological resource education program for construction crews;
- Biological monitor to ensure compliance with all mitigation measures;
- Any additional conditions required by the California Department of Fish and Game (CDFG) and the US Fish and Wildlife Service (USFWS) will be incorporated prior to construction.

Impact BIO-4

Construction associated with the project has potential to cause adverse impacts to western spadefoot toad, California red-legged frog, arroyo toad, and southwestern pond turtle and/or their habitats.

The California red-legged frog could potentially occur in the headwaters and tributaries of the Santa Clara River and adjacent upland areas. The area near the ROW, from Acton west through Mint Canyon, is designated by USFWS as Critical Habitat. The area around the Mojave River near Hesperia where the project crosses is designated Critical Habitat for the arroyo toad. The western spadefoot toad, arroyo toad, and southwestern pond turtle are special-status species that could potentially occur in stream and wetland habitats that would be crossed by the proposed project ROW.

The CNDDB/Rarefind (1998, 1999), CDFG, and USFWS were consulted to obtain information on known occurrences. USFWS was contacted to discuss boundaries of the proposed Critical Habitat. Habitat surveys identified potentially suitable streams and tributaries for these species within the project ROW. Potential western spadefoot toad, arroyo toad, and southwestern pond turtle habitat occurs where intermittent or perennial streams, creeks, or desert washes cross the ROW. Construction adjacent to these habitats in the riparian zone could potentially result in loss of individuals, trampling of fragile eggs, increase in sedimentation, removal of vegetation providing shade, or alteration of habitat in a way that benefits non-native competing species (e.g., bullfrog).

EPGN shall avoid sensitive resources by re-routing around, limiting ground disturbance to the construction ROW, and suspending over sensitive waterbodies by bridge attachment. Where bridge attachment is infeasible, EPGN shall adopt the following mitigation measures as part of the construction mitigation strategy of the proposed project. Implementation of the following measures will avoid or reduce this impact to a less-than-significant level.

Mitigation BIO-4a

EPGN shall retain qualified USFWS and CDFG-approved biologists ~~(per USFWS and CDFG specifications)~~ to conduct a pre-construction survey for special-status amphibians and reptiles and their habitats in designated critical habitat areas, streams and wetlands along the ROW. During surveys, all areas of appropriate habitat shall be identified and mapped. Exclusion zones shall be installed and exclusion fencing shall be erected around these areas.

If arroyo toad or California red-legged frog are found during these surveys, the terms and conditions listed in the USFWS Biological Opinions issued for this proposed project shall be implemented.

Mitigation BIO-4b

Before construction, qualified USFWS and CDFG-approved biologists ~~(per USFWS and CDFG specifications)~~ shall stake and flag exclusion zones around all riparian and wetland areas. Most construction-related activities shall be prohibited within the exclusion zones. Foot traffic and essential vehicle operation on existing roads will be allowed. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities shall be prohibited within the exclusion zones. Construction activities within an exclusion zone shall be accomplished by directionally boring under the zone.

Mitigation BIO-4c

In areas that represent appropriate habitat for special-status amphibians and reptiles, EPGN shall avoid disturbance to special-status reptiles and amphibians by directionally boring under streams, constructing barrier fencing, and relocating animals during construction. At seasonally-flowing streams that support suitable habitat for non-federally listed special-status amphibians and reptiles, and where directional boring is infeasible, impacts shall be avoided by constructing barrier fencing and relocating individual animals during construction, as follows:

- If the stream does not have flowing water during the time of construction and before construction activities begin, qualified and permitted biologists (as required by CDFG) shall survey the ROW to determine the potential for animals to exist in residual pools or vegetation within the affected project ROW. If special-status amphibians and reptiles continue to occupy habitats within the ROW, they shall be captured by qualified, permitted wildlife biologists and relocated to the nearest suitable habitat upstream or downstream of the project route. Barrier fencing shall be constructed along each side of the work area to prohibit animals from re-entering the work area during installation activities. Once the system is installed, the site shall be immediately restored to

its original scope and conditions, and the barrier fencing shall be removed. EPGN qualified biologists shall be on site to identify and relocate any animal that moves into the work area during construction activities.

- Where other access is unavailable, vehicles may need to cross drainages that could potentially support special-status amphibians and reptiles. If an alternate crossing is not available, barrier fencing shall be installed and animals shall be relocated. Barrier fencing shall be constructed of wire mesh material so that flows are not impeded but access into the disturbance area by amphibians and reptiles is restricted. If barrier fencing is required, it shall be installed four days prior to use of the crossing site. Relocation surveys shall be conducted for three consecutive days to verify that all animals are removed from the disturbance area. Temporary barriers shall be removed immediately after the installation activities are completed, the crossing is no longer needed, and the site is restored.

Mitigation BIO-4d

Because the proposed project could potentially result in adverse impacts to California red-legged frog, a federally-listed species, consultation under Section 7 of the ESA between BLM and USFWS is required. The BLM is in the process of preparing a BA for submittal to the USFWS, and initiating Section 7 Consultation. Additional measures to mitigate potential impacts to California red-legged frog may be identified during this consultation process. Refer to Mitigation BIO-3d for a detailed description of this permitting process and EPGN's commitment to implementing avoidance, protection, and mitigation measures identified and agreed upon during this process.

Mitigation BIO-4e

Biological monitors shall be present onsite during all pre-construction and construction activities in order to determine the best course of action for avoidance of impacts to sensitive biological resources such as amphibians and reptiles that are or may be present onsite.

Mitigation BIO-4f

Because the project crosses Critical Habitat for the arroyo toad, consultation between the BLM and USFWS will be required pursuant to Section 7 of the Endangered Species Act. Through the consultation process, appropriate protection and avoidance measures will be developed to address federally listed species and their critical habitat within the project area. A BA is being prepared on behalf of BLM. BLM is completing their final review and will initiate intra-office consultation with USFWS.

Impact BIO-5

Construction associated with the project may cause adverse impacts to special-status non-riparian nesting bird species or otherwise protected raptors or other nesting migratory birds.

According to the initial site assessment, potential arboreal nesting habitat for prairie falcon, gilded flicker, coastal California gnatcatcher, and Bendire's thrasher are located within or near portions of the project ROW. Active nests and potential nesting habitat were located and mapped for these species during the surveys. Surveys were conducted to locate active raptor nests in the vicinity of the project ROW during surveys in the spring of 1999. No active raptor nests were detected in the project area during surveys.

Potential raptor nesting trees are present near agricultural fields in Blythe and in Los Angeles County in various riparian and urban areas. Habitat for Bendire's thrasher occurs in scrub communities along most of the system, from Blythe to San Fernando. Designated Critical Habitat for the coastal California gnatcatcher lies within the project area along Highway 14 northeast of Santa Clarita.

Nesting habitat could be directly impacted by installation of the system, or indirectly by human disturbances from construction activities, that could cause nest abandonment and death of young or loss of reproductive potential at active nests located near the project system. By adopting the following mitigation measures as part of the construction mitigation strategy of the proposed project, this impact will be reduced to a less-than-significant level.

Mitigation BIO-5a

If construction activities are scheduled to occur during the breeding season, preconstruction surveys of all potentially active nest sites for special-status species, raptors, and migratory bird species along construction ROW shall be conducted. If construction activities are scheduled to occur during the non-nesting season, then no surveys are required. If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. To avoid potential adverse effects on nesting raptors, no-disturbance buffers shall be established around active nests during the breeding season. If active nests are found, buffers must be established around them for prairie falcon, coastal California gnatcatcher, and Bendire's thrasher. Buffer zones shall be defined through consultation with USFWS, CDFG, and based on an evaluation of the individual sites. The evaluation shall be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., farming activities or road traffic) and the observed sensitivity of the birds. Evaluations and buffer adjustments will be completed in consultation with USFWS and CDFG representatives and approved in writing by these agencies. The portion of the project ROW that is within the designated buffer shall be identified in the field by staking and flagging. If construction activities occur only during the non-breeding season between August 31 and February 1, no surveys need to be conducted and no buffers would be established.

Mitigation BIO-5b

~~Because the proposed project could potentially affect gilded flicker, a state-listed species, a permit pursuant to Section 2081 of the Fish and Game Code could be required. During this permitting process additional measures to avoid or mitigate impact to these species may be identified. Refer to Mitigation BIO-3e for a detailed description of this permitting process. EPGN shall incorporate all additional permit conditions identified during the permitting process into construction specifications and the EPGN inspectors shall verify that these conditions are implemented.~~Mitigation measures BIO-5a and BIO-5c will reduce potential impacts to the gilded flicker. These measures are summarized below:

- Pre-construction surveys to determine the locations of currently occupied and active nests during the nesting season;
- Establishment of buffer areas around active nests;
- Biological monitor to ensure compliance with all mitigation measures;
- Any additional conditions required by the CDFG and the USFWS will be incorporated prior to construction.

Mitigation BIO-5c

Biological monitors shall be on site during all pre-construction and construction activities and will consult with CDFG to determine the best course of action for avoidance of impacts to sensitive biological resources such as non-riparian birds that are or may be present onsite.

Mitigation BIO-5d

Because the project crosses Critical Habitat for the coastal California gnatcatcher, consultation between the BLM and USFWS is required pursuant to Section 7 of the Endangered Species Act. Through the consultation process, appropriate protection and avoidance measures will be developed to address federally listed species and their critical habitat within the project area. A BA is being prepared on behalf of BLM. BLM is completing their final review and will initiate intra-office consultation with USFWS.

Impact BIO-6

Construction associated with the project could result in disturbance of special-status bats.

The small-footed myotis, California leaf-nosed bat, and pale big-eared bat could potentially occur in the vicinity of the project ROW. These species are considered California Species of Special Concern. Potential maternal roosting habitat for bats include large abandoned buildings, bridges, trees, cliffs, caves, and mines. Of this potential habitat, the ROW will only encounter bridges. The following measure shall be implemented to bring potential impacts to sensitive bat species to a less-than-significant level.

Mitigation BIO-6

- A biological monitor shall be present during all pre-construction and construction activities to determine the best course of action for avoidance of impacts to sensitive biological resources such as bats that are or may be present onsite.
- In conjunction with mitigation for nesting swallows (see Mitigation BIO-10) and before construction, a wildlife biologist shall conduct a survey of all bridge attachment sites to determine if bats are present. If no bat roosts are found, no further mitigation will be required.
- If bat roosts are found, the location shall be mapped and included as part of the Sensitive Resource Education Program (See Impact BIO-5c). Attachment to these bridges would result in a temporary, short-term disturbance to active bat roosts.
- ~~Attachment to these bridges shall be conducted at night when the bats are foraging. EPGN shall retain a qualified biologist (per CDFG specifications) to monitor attachment to these bridges. EPGN shall contact CDFG to determine if any additional measures would be required to avoid or reduce adverse impacts to these species.~~
- If bats are determined to be actively using a roost on a bridge attachment site, no work will be conducted until the bats have left, as determined by a qualified and CDFG-approved biologist.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?

Impact BIO-7

Construction associated with the project could cause damage to or permanent loss of riparian communities. Implementation of the following mitigation measure will reduce the potential impacts to a less-than-significant level.

Mitigation BIO-7

Construction equipment shall be confined to the construction ROW and designated work sites in areas that support sensitive resources (e.g., in areas that support riparian and wetland communities and special-status species). This measure does not apply to resources that are being completely avoided by directional boring. During the environmental training program, construction personnel shall be informed about the importance of avoiding ground-disturbing activities outside of the designated work area.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-8

Construction associated with the project may adversely impact waters of the US.

EPGN will avoid direct construction impacts to wetlands by re-routing around, directional boring under, or bridge attachment over Waters of the U.S. (including wetlands). The area of Waters of the U.S. that will be disturbed will be limited to the minimum area necessary to successfully install the system. Indirect impacts, such as sediment runoff from construction and damage from personnel and vehicle traffic, could affect waters within close proximity to the project ROW. These impacts will be reduced to less-than-significant levels within close proximity to the project ROW through the application of the mitigation measures identified below.

Mitigation BIO-8

In wetland areas, construction activities shall be limited to the ROW. Protective barrier fencing or staking and flagging shall be used in specified areas to protect waters of the U.S. near the work zone. Wetlands shall also be identified on the construction drawings or resource mitigation drawings. EPGN biologists shall assist in placing stakes and flagging or protective barriers around waters prior to any ground-disturbing activities.

EPGN biologists shall identify the specific location of protective barriers before construction activities are initiated near specified jurisdictional wetlands. The EPGN environmental inspector and biologist shall routinely inspect protected areas to ensure that barriers remain in place and are effective. Protective barriers shall remain in place until all construction activities are completed in areas near sensitive resources.

When possible wetland areas shall be avoided completely or the fiber line shall be placed under wetland areas by directional boring so that the surface is not disturbed.
Where disturbance cannot be avoided, the following measures shall be implemented to reduce to a less-than-significant level effects on and restore other Waters of the U.S. and associated plant communities:

- Stabilize exposed slopes and streambanks immediately on completion of installation activities. Restore in a manner that encourages vegetation to re-establish to its pre-project condition and reduces the effects of erosion on the drainage system.
- In highly erodible stream systems, geotextile mats, excelsior blankets, or other soil stabilization products approved by the agencies shall be used. In riparian or wetland areas, no rice straw shall be used to stabilize erodible soils.
- Remove trees, shrubs, debris, or soils during construction that are inadvertently deposited below the ordinary high-water mark of drainages in a manner that reduces to a less-than-significant level disturbance of the drainage bed and bank.
- Implement additional measures that may be required as part of the CDFG, ACOE, and RWQCB permits that will be obtained for the project ROW.
- Installation activities shall not take place in saturated or ponded wetlands.
- Re-contour the ground surface to maintain pre-project wetland hydrology.

These measures shall be incorporated into contract specifications and implemented by the construction contractor. Additionally, EPGN shall incorporate all permit conditions into construction specifications.

EPGN Environmental Inspectors shall routinely inspect construction activities to verify that the above protection measures and permit conditions have been implemented.

a) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

Impact BIO-9

Construction associated with the project may cause adverse impacts to special-status riparian-nesting bird species or other migratory riparian nesting bird species.

Appropriate habitat that could support the following riparian-nesting birds occurs along the system: Great egret, great blue heron, Cooper's hawk, Yuma clapper rail, western yellow-billed cuckoo, long-eared owl, elf owl, gila woodpecker, southwestern willow flycatcher, vermilion flycatcher, brown-crested flycatcher, Least Bell's vireo, Crissal thrasher, Le Conte's thrasher, yellow warbler, Sonoran yellow warbler, yellow-breasted chat, and summer tanager. Each of these species could potentially nest in riparian vegetation.

Proposed project activities could temporarily disturb riparian habitat along the project ROW. This will be less-than-significant because the majority of the proposed ROW is within existing ROWs that have little or no riparian habitat. Riparian areas that are encountered will be entirely avoided by directional boring or by lateral adjustment of the system. Possible exceptions could include locations where the system would be installed in ditches along the shoulder of roadways, or if site conditions are unreasonable for drilling under intermittent or ephemeral streams. The proposed project will have a less-than-significant impact on any riparian habitat or other sensitive natural community with the implementation of the following mitigation measures into the construction mitigation strategy of the proposed project.

Mitigation BIO-9a

Pre-construction surveys shall be conducted to determine the presence or absence of nesting migratory birds, as defined under Section 703 of the Migratory Bird Treaty Act and Section 3513 of the California Fish and Game Code. If nesting special-status or migratory birds are located during the survey, construction shall be postponed until the nestlings have fledged.

To protect migratory birds, as required under the Migratory Bird Treaty Act, no woody riparian vegetation shall be removed between March 15 and September 15. Vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration of the plants. Cutting shall be limited to the minimum area necessary within the 25 foot-wide construction ROW. Erosion control procedures shall be followed in all cases where there is the potential to impact riparian habitat.

Mitigation BIO-9b

It is anticipated that the proposed project will not affect the Yuma clapper rail, southwestern willow flycatcher, or the Least Bell's vireo due to the limited disturbance to riparian habitat and the species' limited range. However, during Section 7 consultation between BLM and USFWS, additional measures to mitigate potential impacts to these species may be identified. Refer to Mitigation BIO-3d for a detailed description of this permitting process and EPGN's commitment to implementing avoidance, protection, and mitigation measures identified and agreed upon during this process.

~~Because the proposed project could potentially affect state-listed species western yellow-billed cuckoo, elf owl, and gila woodpecker, a permit pursuant to Section 2081 of the Fish and Game Code could be required. During this permitting process additional measures to avoid or mitigate impacts to these species~~

~~may be identified. Yuma clapper rail and Least Bell's vireo are both state and federally-listed species. CDFG could defer to USFWS for these species or cover them under the Section 2081 permitting process. Refer to Mitigation BIO-3e for a detailed description of this permitting process. EPGN shall incorporate all additional permit conditions identified during the permitting process into construction specifications, and the contract compliance inspector shall verify that these conditions are implemented.~~Mitigation measures BIO-9a and BIO-9c will reduce potential impacts to the western yellow-billed cuckoo, elf owl, and Gila woodpecker. These measures are summarized below:

- Pre-construction surveys to determine the locations of currently occupied and active nests;
- Postpone construction until after young have fledged;
- No removal of woody vegetation during the breeding season;
- Measures to prevent impacts to riparian habitat in BIO-7;
- Biological monitor to ensure compliance with all mitigation measures;
- Any additional conditions required by the CDFG and the USFWS will be incorporated prior to construction.

Mitigation BIO-9c

Biological monitors shall be on site during all pre-construction and construction activities to determine the best course of action for avoidance of impacts to sensitive biological resources such as riparian-nesting songbirds that are or may be present onsite.

Impact BIO-10

Construction associated with the project could result in damage to or loss of swallow nests.

Although swallows are not special-status species, cliff swallows, barn swallows, and rough-winged swallows (and their occupied nests and eggs) are protected by federal and state laws, including the Migratory Bird Treaty Act (50 CFR 10 and 21). USFWS is responsible for overseeing compliance with the Migratory Bird Treaty Act. Active swallow nesting colonies could be located underneath bridge structures where the system will be attached. Cliff swallows and barn swallows construct mud nests, often concentrated into large breeding colonies underneath concrete bridges. Rough-winged swallows often construct nests within a bridge structure, gaining access to the interior through existing drainage holes in the structure. Surveys were conducted to identify and map all active swallow-nesting colonies on bridges and in culverts along all project ROW. There were several abandoned nests along the Mojave River, and there were several active nests observed on the face of the Colorado River bridge.

Attachment of the system on these bridges during the breeding season (between March 1 and September 1) could result in destruction or abandonment of swallow nests and potentially of entire breeding colonies. If activities associated with the attachment of the system to bridges occur outside the swallow-nesting season, activities can proceed with no further mitigation. Implementation of the following mitigation measure will reduce to a less-than-significant level impacts from construction activities that occur during the breeding season.

Mitigation BIO-10

A biological monitor shall be present during all pre-construction and construction activities to determine the best course of action for avoidance of impacts to sensitive biological resources such as swallows that are or may be present onsite.

A wildlife biologist shall inspect known nest sites during the swallows' non-breeding season between September 1 and February 28. If all swallow nests are abandoned, the nests shall be removed.

- If the proposed bridge attachments would occur during the swallows' breeding season, the nests shall be removed before March 1, if a qualified and CDFG-approved biologist determines they are abandoned.
- Bridge attachments with actively nesting cliff swallows will be avoided between March 1 and September 1.
- ~~If swallows begin building nests on the bridge after March 1, the mud placed by the swallows shall be removed weekly either by manually knocking them down or by high pressure water.~~
- ~~If a swallow completes a nest during bridge attachments, EPGN shall contact USFWS to obtain the appropriate permits for removal.~~
- ~~The mud shall be removed weekly from March 1 until September 1 or until the bridge attachments are completed, whichever comes first.~~
- ~~If the removal of nests does not occur by March 1 and swallows subsequently colonize the bridge, attachments to the bridge shall not begin before September 1, unless EPGN obtains permits from USFWS.~~

Impact BIO-11

Construction associated with the project near waterways could cause discharge of sediment into waterways, resulting in an adverse impact to aquatic organisms.

Two special-status fish species (unarmored threespine stickleback and arroyo chub) were identified as potentially occurring along the project ROW. Both species potentially occur only in the Santa Clara River. The unarmored threespine stickleback is known from Soledad Canyon, upstream of the alignment crossing the Santa Clara River in Santa Clarita.

Increased sediment loading to streams from construction could affect fish and other aquatic organisms' health and feeding ability by increasing turbidity and could reduce the quality of spawning and rearing habitat through sedimentation. Impacts attributable to increased sedimentation and turbidity resulting from the proposed project are expected to be less-than-significant with mitigation.

There are no anadromous fish species that would potentially occur along the system. While steelhead do occur in the Santa Clara River system, they use tributaries well downstream of the alignment. Many streams within the project system may also dry to minimal or no flow by mid to late summer.

The system also crosses the Mojave River and the Colorado River. There are no known sensitive aquatic species in the vicinity of the project ROW that occur at either river crossing.

Resident fish seasonally use river systems for spawning and rearing. Young life stages may be more susceptible than other stages to construction-related activities, such as accidental seeps from boring activities and hazardous materials. These sensitive stages include spawning, egg development, and early fry development. The timing of occurrence of the various life history stages relates directly to the

available “window” of construction. Spawning and early development typically occur in late winter or early spring in southern California.

Potential impacts are considered less-than-significant with the implementation of the following mitigation measure as part of the construction mitigation strategy of the proposed project.

Mitigation BIO-11

To ensure impacts will not occur to listed fish species, EPGN shall not trench in wetted channels. The conduits shall be attached to bridges at the Colorado, Mojave and Santa Clara River crossings. As designed, the proposed project shall avoid work in perennial drainages or seasonal drainages that are flowing at the time of construction. Therefore, the proposed project will have a less-than-significant effect on in-channel fish and aquatic habitat. The ROW could, however, disturb some riparian vegetation. This disturbance could potentially affect fisheries resources by increasing the potential for erosion of the affected streambank and loss of stream cover. EPGN shall reduce this impact by adopting mitigation measure BIO-7 as part of the construction mitigation strategy of the proposed project. Biological monitors shall be present onsite during all pre-construction and construction activities to provide guidance on these activities.

The potential for accidental bentonite seeps through frac-outs will be reduced to a less-than-significant level through the measures specified in the Project Description - Installation of Conduits. Spills of hazardous materials will be reduced to a less-than-significant level through implementation of measures specified in the SPCC.

Impact BIO-12

Accidental release of hazardous materials from construction equipment could impact aquatic resources.

Hazardous materials associated with the proposed project will be limited to those substances typically associated with construction equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. An accidental spill of these substances could contaminate drainages and adversely affect amphibians and fish or their habitat. This possible impact is considered less-than-significant with strict adherence to the spill prevention measures, as described in the SPCC.

Mitigation BIO-12

As described in the SPPC, hazardous substances shall be stored in staging areas located at least 150 feet from streams and other surface waters. Refueling and vehicle maintenance shall be performed at least 150 feet from these receiving waters. Sedimentation fences, certified weed-free hay bales, sand bags, water bars, and baffles shall be used as additional sources of protection for waters, ditches, and wetlands.

Impact BIO-13

Directional boring of waterways for system installation could potentially result in frac-outs that release harmful bentonite into local waterways.

Directional boring could potentially result in bentonite seeps into surface waters. Bentonite is a non-toxic, clay-based water mixture used to lubricate the boring mechanism. Although non-toxic, seeps of bentonite into streams could potentially result in temporary increases in turbidity and sedimentation that could affect amphibians and fish and their habitats. This possible impact is considered less-than-significant with implementation of mitigation.

Mitigation BIO-13

Several measures are proposed by EPGN to reduce to a less-than-significant level the potential for bentonite seeps, including:

- requiring boring crews to strictly monitor drilling fluid preserves;
- retaining containment equipment on site;
- monitoring waters downstream of the crossing sites to quickly identify any seep, and immediately stopping work if a seep into a stream is detected;
- immediately implementing containment measures;
- adhering to agency reporting requirements;
- and identifying responsible parties.

Containment equipment shall include staked and floating silt barriers to isolate frac-out locations from flowing water.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-14

Construction associated with the project may affect species protected by the County of San Bernardino Desert Native Plant Protection Ordinance.

For most of the proposed system, the proposed project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. However, the County of San Bernardino Desert Native Plant Protection Ordinance requires the applicant to obtain a permit for the removal of smoketree (*Dalea spinosa = Psorothamnus* sp.), all mesquites (*Prosopis* spp.), all species of the family Agavaceae (i.e., yucca, century plant, and nolina), creosote bush rings (10 feet or greater in diameter), and all Joshua trees. System installation in desert washes may affect smoketrees or mesquite, and Joshua trees are present in the proposed project system in the western Mojave Desert. Creosote bush is present along much of the proposed system in California, and some individual plants may qualify for protection under the San Bernardino County ordinance. EPGN will avoid impacts to these species by re-routing the corridor or by directionally boring under the dripline of the trees, whenever possible~~. However, where avoidance is not feasible, EPGN~~ and will reduce impacts to a less-than-significant level by implementing the following mitigation measure.

Mitigation BIO-14

~~In accordance with San Bernardino County guidelines, EPGN shall acquire appropriate permits for mesquite or smoketrees planned for removal in San Bernardino County that cannot be entirely avoided by the positioning of the line or by directional boring.~~Mesquite and smoketree were observed during pedestrian surveys by SWCA in some washes in Riverside and San Bernardino counties. EPGN shall avoid impacts to mesquite and smoketree by directionally drilling at these locations.

4.6 CULTURAL RESOURCES

Would the proposal:	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

ON-ROW

Riverside County

Natural Setting

The California portion of the proposed system route begins just east of the city of Blythe at the California/Arizona border and travels north through Riverside County until it reaches San Bernardino County. The proposed route then travels west-northwest for the entire length of San Bernardino County, moving into Los Angeles County approximately 20 miles west of Victorville. The route continues west through Palmdale, turns south through Soledad Canyon, turns southeast at Simi Valley, traverses into Burbank, and reaches its termination point in downtown Los Angeles.

The Riverside County portion of the on-ROW route lies within the Colorado Desert geological and physiographic province. The Colorado Desert is the California portion of a much larger region known as the Sonoran Desert. Much of the region is a large, elongated valley with the Salton Sea at its lowest point. The hydrology of the area is dominated by the Colorado River, and in the past, formations of Lake Cahuilla. East of the Salton Sea are mountain ranges including the McCoy and Big Maria. The Colorado Desert receives more rainfall than the northern deserts with most of the precipitation falling in August and September, usually as thunderstorms. The dominant vegetation is creosote bush with saltbushes occurring where the soil is highly alkaline. Small species of cacti dominate the landscape, but mixed in are the large desert agave, or century plant, as well as the distinctive ocotillo (Schoenherr 1992). A unique feature of the Colorado Desert is the presence of several species of trees (blue palo verde, ironwood, and smoke tree) along dry water courses and the California fan palm, which occurs in seeps and oases, particularly along the San Andreas Fault.

Prehistory

Periods of occupation for the deserts of the southern part of California begin in the Late Pleistocene, which is estimated at approximately 12,000 years or more before present (BP). The Late Pleistocene is characterized by a focal economy based on medium-sized or large game and small, widely separated populations living near Pleistocene lakes in desert regions. Subsequent periods of occupation identified for the Colorado Desert include the Early Holocene (12,000 to 7,000 BP), which includes the Lake Mohave Tradition. This tradition reflects adaptations to changing environmental conditions made by populations in the interior southern California deserts. Tool kit changes indicate a gradual conversion from a subsistence base contingent on big game hunting to one oriented toward plant resources, smaller game, and possibly fishing. Following the Early Holocene are the Middle Holocene (7,000 to 4,000 BP) and the Late Holocene (4,000 BP to contact). Emerging in the Late Holocene, the Pinto Basin Tradition is an outgrowth of the Lake Mohave Tradition and indicates the emergence of an annual round subsistence strategy in which resources (primarily plants) from nearby mountains, foothills and valleys were incorporated. The new emphasis on plant rather than animal proteins resulted in an improved diet and enabled people to live in previously unoccupied parts of the state (Chartkoff and Chartkoff 1984; Moratto 1984).

Very few Paleoindian prehistoric sites have been recorded within the Riverside County portion of the proposed project area. Because of the extremely small number of sites, very little information exists about the Paleoindian prehistoric cultures in this area. Numerous possible explanations have been proposed for the paucity of information:

- Many early desert sites may still be undiscovered.
- Many sites may have been obliterated by rising sea levels in prehistoric times.
- If the California desert environment could not support large herds of big game, there may never have been large Paleoindian populations (Chartkoff and Chartkoff 1984).

Ethnography/Ethnohistory

This portion of the proposed project area lies within the territory known to have been inhabited by the Chemehuevi, a people whose language was part of the Southern Numic branch of the Uto-Aztecan linguistic family (Swanton 1952). In 1826, the Chemhuevi displaced the Halchidhoma tribe, which earlier had fled the region following the combined attack of Quechan and Mohave tribes. Chemehuevi territory included the area west of the Colorado River from modern-day Blythe north to Needles and as far west as Bristol Dry Lake near Twentynine Palms.

The Chemehuevi were closely associated with both the Mojave and Great Basin tribes. With the Mojave they shared elements of material and spiritual culture such as ceramic styles, square metates, dream emphasis, personal adornment, and warfare patterns. Elements of material culture shared with the Great Basin groups include basket forms of conical burden baskets, fan-shaped winnowing/parching trays, and seed beaters (Kelly and Fowler 1986). Although therewere close associations with the Mojave, the Chemehuevi were more closely aligned with the Great Basin groups than with their nearest neighbors, the Kitanemuk, Serrano, or Cahuilla. Their language reflects a subdivision of the Uto-Aztecan family of languages, which is found throughout the Great Basin. The Chemehuevi employed a subsistence base that relied mainly on floodplain farming and intensive collecting of plants and seeds, augmented with supplemental fishing and hunting. Typically small, non-sedentary tribelets utilized a seasonal round to take advantage of ripening plant resources. Frequent movement over relatively large distances prompted social organization that was flexible and based on the nuclear family. Nuclear groups frequently came together to harvest wild seeds, participate in rabbit drives, or build winter shelters to form small villages.

At the conclusion of these events, the groups resumed their independent hunting and gathering patterns (Chartkoff and Chartkoff 1984; Moratto 1984; Kelly and Fowler 1986).

History

In May 1893, the voters of an area of San Bernardino and San Diego Counties approved the formation of Riverside County, which is now the fourth largest county within the state of California (7,200 square miles). Agriculture was the largest industry during the early development of the county; however, in recent times, commerce, construction, manufacturing, transportation, and tourism have contributed to the region's rapid growth.

City of Blythe

History

Situated in northeastern Riverside County above the western banks of the Colorado River, the settlement of Blythe began in 1882 as an experimental 40-acre farm on 40,000 acres of desert land. Thomas H. Blythe blasted a cut in the banks of the Colorado River to irrigate his desert land-development scheme and potential colony (Setzler 1967). Blythe, an English immigrant who settled in San Francisco and became a prosperous mining engineer, initially filed for use of Colorado water in 1877 under the California Swamp and Overflows Act. A year after he initiated the development scheme, and after sinking $82,000 into the project, he died of a heart attack.

In spite of his demise, Blythe's development scheme was successful, and the first cotton gin was in operation in 1911, along with the chamber of commerce and the water district (Setzler 1967). Until 1916 and construction of the California Southern Railroad connecting the valley to the Santa Fe Parker Cutoff at Blythe Junction, Blythe was still an isolated outpost next to the river, connecting Needles and Fort Yuma. In the early years, intermittent paddle-wheel steamboat services operated up and down sections of the Colorado River. Summer temperatures were so high throughout the Palo Verde Valley and surrounding desert that many people left during the summer months (Setzler 1967). For many years the old Blythe Hotel was one of the few places where people could congregate.

In 1907, extensive gypsum deposits were found in the Midland area, bringing additional miners and others to the Blythe area. In 1911, the Palo Verde-Blythe Land and Town Company advertised several hundred town lots for sale. In the same year, a new steam-powered cotton gin was constructed, and the 1912 crop of King Cotton yielded 650 bales at $59.95 a bale (Setzler 1967). The city of Blythe was incorporated in 1916, the same year that the California Southern Railroad from Blythe Junction (later called Rice) branched from the Santa Fe Parker Cutoff to Blythe. Arrival of this 41-mile-long independent railroad, paid for mostly with the funds of local Blythe businessmen and cotton growers, greatly accelerated the cotton industry of the valley, especially following the lean World War I years when English mills were at a standstill. In 1919, the valley produced 16,506 bales of cotton (Setzler 1967).

Town of Midland

History

At the juncture of the Big Maria and Little Maria Mountains is Midland, developed by U.S. Gypsum from claims made as early as 1907 by Floyd Brown and Henry Hartman, as well as other early claims. The town of Midland was founded around 1926 as a wholly-owned company town and a post office was

established in 1927. By 1939, the Midland Road was finally paved, which was beneficial to the U.S. Gypsum Company; the road was paid for by both the company and Riverside County. By 1944, the company had 350 employees and provided housing, a school, a commissary, and other services for its workers. In the late 1960s more than 1,000 people worked at the plant and they had paved streets, tennis courts, a ball diamond, and many new facilities.

Water had always been a problem with the isolated Midland plant; water was brought from Blythe by rail in large tank cars. Originally, the plant primarily mined gypsum for making Portland cement, but later produced gypsum for soil treatment, wall plasters, wall board, and even "Gypsnow," which was used as artificial snow in the movie industry. The plant ended operations in Midland in December 1966 and moved to Plaster City in Imperial County (Gunther 1984; Vredenburgh et al. 1981). The plant itself was demolished in 1970; remaining buildings were vandalized and finally burned as a firefighting exercise in 1973.

Town of Rice

History

Formerly known as Blythe Junction, the town now known as Rice is about 45 miles northwest of Blythe at the junction of Midland Road and State Highway 62. Originally named Blythe Junction because it was the closest rail access to the town of Blythe, it was renamed Rice to honor Guy Rice, the chief engineer of the California Southern Railroad (Gudde 1969). Today the town is in ruins, with a collapsing gas station, vacant school, numerous concrete pads, and many scattered refuse deposits primarily dating to the 1940s and later.

This small "Sintown" has gained some notoriety through "urban legends," as numerous authors (e.g., Setzler 1967) describe the turn-of-the-century town as a lawless place in need of a good sheriff. Setzler (1967) summarized the old town as "a typical Wild West desert town, with plenty of entertainment and a minimum of law enforcement [that] featured booze, ladies of easy virtue, and card games for keeps." For some years, it could not be determined if the town was in San Bernardino County or Riverside County; therefore, there was some disagreement over legal jurisdiction. Sometimes raids were conducted on the town by San Bernardino County officers, and at other times it was Riverside County officers who raided the town. The actual number of raids conducted on the town is currently unknown, although a thorough archival newspaper search of the period may reveal some insights into this topic. Setzler (1967) mentioned that officers from both counties conducted a joint raid in April 1914, "arresting the postmaster, the assistant postmaster, and other gentlemen of prominence on the charges that the saloon had no license, that there was gambling and white slavery, and on other charges." Apparently another "big raid" was conducted in 1915.

During construction of the Colorado River Aqueduct in the early 1930s, which parallels much of State Route 62, Rice was busy on weekend nights as hundreds of hard-rock miners and construction workers came looking for fun. During the prohibition years (1919 through 1933), Rice was apparently known as a place where potent moonshine was easily obtained. During the early years of World War II, the area was a center of military training activities with the extensive Rice Airbase to the southeast.

San Bernardino County

Natural Setting

The on-ROW route continues west-northwest through San Bernardino County, which lies within the vast Mojave Desert. The western portion of the Mojave is known as the "high desert" and includes the Antelope, Apple, and Yucca Valleys. Geologically, the Mojave is a large, wedge-shaped basin into which are projected numerous mountain ranges of diverse geologic nature. The Mojave receives most of its precipitation in the winter, with snow commonly falling in the higher elevations. In the areas where snow falls and the soil is nonalkaline, the vegetation is predominantly leaf-succulent yuccas, the most conspicuous being the Joshua tree. Serving as a general midpoint, the vegetation above the Joshua tree line consists of a belt of pinyon pines, below which is a region dominated by blackbrush. At even lower elevations are sandy soils covered by creosote bush, the dominant shrub of the California deserts. Cacti are found mostly on rocky slopes, and along washes there may be trees, primarily honey mesquite and desert willows (Schoenherr 1992).

Prehistory

The earliest evidence of human occupation of the Mojave Desert comes from the Late Pleistocene (around 12,000 BP), as described above for Riverside County. Artifacts belonging to this period were initially recovered from sites situated on the shores of Pleistocene Lake Mojave. This former lakebed encompasses the Soda Lake and Silver Lake Playas approximately 40 miles northeast of Victorville. Artifacts indicative of this period include foliated points and knives, Lake Mojave and Silver Lake points, and flaked-stone crescents. Similar artifacts have been recorded along the shores of numerous other pluvial lakes in the Mojave Desert (Moratto 1984; Warren 1967). Following the Early Holocene are the Middle Holocene (7,000 to 4,000 BP) and the Late Holocene (4,000 BP to contact), also as described above (Chartkoff and Chartkoff 1984; Moratto 1984).

Ethnography/Ethnohistory

Several groups are known to have inhabited the western Mojave Desert region, including the Kawaiisu, Chemehuevi, Alliklik (Tataviam), Kitanemuk, Vanyume, and Serrano. The group occupying the largest portion of the proposed project area at the time of historic contact was the Serrano people (Bean and Smith 1978). Assigning definitive boundaries for the territory occupied by the Serranos is virtually impossible due to the lack of data for this area and the sociopolitical organization within tribes. However, it is generally believed that Serrano territory included the San Bernardino Mountains east of Cajon Pass, the desert area immediately south of Victorville, just past Twentynine Palms to the east, and south to and including the Yucaipa Valley (Bean and Smith 1978).

The Serrano were primarily hunters and gatherers whose vegetal staples varied with the village locality. Typically, acorns and piyoon nuts were collected in the foothills with mesquite, yucca roots, and cactus fruits coming from the desert regions. Hunted game included deer, antelope, mountain sheep, rabbits, and other small rodents. Various game birds were also hunted, quail being the most important. Bows and arrows were commonly used to hunt large game, and traps, snares and throwing sticks were used for hunting smaller game and birds. Occasionally, game was hunted communally, especially during annual mourning ceremonies (Benedict 1924; Bean and Smith 1978).

Circular, domed structures were used as sleeping and storage areas; however, the majority of Serrano activities took place outside or under a shade structure constructed simply of four posts and a roof. Individual family dwellings were typically occupied by a husband, wife, their unmarried female children, and occasionally a widowed aunt or uncle. Technologically, the Serrano produced a vast array of

manufactured goods, including lavishly decorated baskets, pottery, awls, arrow straighteners, fire drills, musical instruments, feathered costumes, arrows and mats (Bean and Smith 1978; Strong 1929).

The Serrano were loosely organized into exogamous clans, each of which was affiliated with one of two exogamous moieties (Strong 1929). Although the exact nature of these clans is unknown, including their structure, function, and number, Strong (1929) determined that the clan was the largest political and landholding unit of the Serrano. Each clan had a chief or headman, whose duties included determining when and where to collect or hunt, as well as conducting sacred ceremonies. Serrano shamans were mainly curers who healed their patients by administering herbal remedies and sucking out disease-causing agents (Strong 1929; Benedict 1924).

The closest northern neighbor to the Serrano were the Vanyume people, generally considered the desert branch of the Serrano as the two groups spoke the same language, intermarried, and held joint festivities (Earle 1997). The Vanyume territory is believed to have included the area along the Mojave River north of Victorville, southeastern Antelope Valley east of Big Rock Creek, and northeastern Antelope Valley. Friar Francisco Garcés' 1775 diary places the Vanyume "some few leagues east of the 'sink' of the Mojave River," perhaps a third of the way from the river to the Providence Mountains (near the Nevada border) (Kroeber 1925). The number of Vanyume, ostensibly never very large, dwindled rapidly between 1820 and 1834 as the Spanish gathered the southern California native populations into various missions and *asistencias*. Garcés mentions observing one village of 25 people, a second village that had been abandoned, a third village below Victorville where he encountered 40 people, and a fourth unidentified village. The Vanyume are believed to have become culturally extinct by 1900 (Kroeber 1925; Bean and Smith 1978).

History

The availability of water, which was historically supplied to desert regions by shipment in tanks and barrels, was a critical factor in the settlement of the Mojave. Much of the 15,000-square-mile desert is uninhabitable in the hot summer months; however, its sporadic settlement was prompted by the desert's close proximity to Los Angeles and its valuable mineral deposits.

The first European to explore the Mojave region was the Spanish explorer Francisco Garcés. In 1771, he followed and recorded an ancient Native Californian trail into the San Bernardino Mountains, passing near Barstow. He named this trail the "Old Indian" Trail. In 1772, Pedro Fages founded a similar trail that was initially referred to as the Old Spanish Trail, and later as the Salt Lake Road or Mormon Trail. Francisco Garcés followed this trail in 1776 and Jedediah Smith traveled it in 1826 and 1827 (Kyle 1990).

In 1826, Jedediah Smith crossed the Mojave River, christening it the "Inconstant River", probably due to its intermittent, partially underground flow (Peirson 1970). The route passed by Otangallavil, an Indian village located near the present-day town of Hesperia (Pierson 1970). In 1844, following the same route as Smith, John Fremónt recorded what the Spaniards called the Rio de las Animas as the Mojave River (Peirson 1970).

Transportation routes have historically played an essential role in the settlement of the desert regions. As described above, the first trail in the Mojave region was established at an early date by Native Californians and was referred to as the Old Indian Trail (Steele 1976). By 1830, this trail was used as a trade route for American goods from Santa Fe and Mexican horses and mules from Los Angeles (Latta 1932). The trail also served as a continuation of the Santa Fe Trail linking Mexican outposts in New Mexico and California (Lantis, Steiner, and Karinen 1989). Following some of the early trade routes, a rail line linking the San Joaquin Valley to Los Angeles was constructed in the 1870s.

Transportation routes opened the Mojave region to increased settlement and mining ventures as miners from the Los Angeles area settled in the Antelope Valley, the San Gabriel and Tehachapi Mountains, and the Owens Valley. Beginning in the latter half of the 19th century, the town of Mojave served as the rail terminus for the 20-mule-team borax wagons that operated from Death Valley. The United States Borax and Chemical Company (formerly the Pacific Coast Borax Company) developed sodium borate mining at Boron, approximately 30 miles north of Victorville. Gold was discovered at Standard Hill in 1894, and the Cactus Queen Mine produced the most silver ore in California until World War II (Kyle 1990). The result of the mining interests was increased settlement, formation of small towns, and the development of agriculture where once there had been only wind-blown desert.

A resurgence of interest in desert life was brought forth with the passage of the Small Tract Act of 1938, which allowed the purchase of 5 acres of land at a rate of $10 an acre for qualified individuals. This Act differed from the Desert Land Act of 1877, indicating that there was no requirement to reclaim the land by irrigating it within 3 years of the purchase date (Gates 1991 as cited in SWCA 2000). Following World War II, this act motivated many people to move from the crowded cities of the Los Angeles area into the sparse beauty of the desert.

During World War II, portions of the desert regions in southern California and western Arizona became home to the largest military training installation ever to have existed. Initially commanded by General Patton, the facility, located west of the Colorado River and east of Desert Center, served as a desert training and logistics center throughout the war (Howard 1985 as cited in SWCA 2000). The closest facility to the project area was Camp Rice, located 15 miles northwest of the Big Maria Mountains.

In more recent times, particularly since the mid-1970s, the Mojave region has experienced a rapid increase in population and urban development. Communities that have witnessed the most growth include Twentynine Palms, Apple Valley, and Hesperia, all of which are near the proposed project ROW.

The reasons behind the rapid growth are myriad. Affordable housing, the relatively low cost of living, and a natural environment that offers abundant recreational opportunities are just a few. The numerous highways and regional railroads that criss-cross the desert serve as a draw to industry, which uses the transportation lines and inexpensive land to establish distribution centers. Although not as significant today as in the recent past, minerals are still an important desert resource. A final component that aids the desert economy is the location of defense training and testing sites in the desert—specifically, the Marine Corps Air-Ground Combat Center in Twentynine Palms and George Air Force Base near Adelanto and Victorville (Chartkoff and Chartkoff 1984; Kyle 1990).

City of Twentynine Palms

History

In the early 1850s, Henry Washington, a land surveyor of San Bernardino and Riverside Counties, surveyed the Twentynine Palms area, then known as the Oasis of Mara, and found 29 palm trees (Gudde 1969). In 1856, land was set aside for the Twentynine Palms Indian Reservation, but there was some confusion about which lands belonged to the native inhabitants and which land was assigned to the Southern Pacific Railroad. It was not until 1877 when the federal government took control of managing the reservation that these issues were resolved. By 1888, about 40 Chemehuevi were living on the reservation. The 1902 census lists 37 individuals, some of whom claimed Chemehuevi affiliation and others of whom claimed to be Serrano (Cates 1984). Official reports on the reservation date to 1908, when Clara True became the first Indian Service Agent placed in charge of Twentynine Palms and other reservations in San Bernardino and Riverside Counties.

In 1909, the infamous Willie Boy incident occurred. In brief, a young Paiute named Willie Boy had fallen in love with a Chemehuevi girl whose father disapproved. Willie Boy allegedly kidnapped the girl, and there ensued a long chase, which ended with the deaths of Willie Boy and the girl (Lawton 1960). After the incident, most Chemehuevi left Twentynine Palms for the Morongo Indian Reservation, and by 1913 the Twentynine Palms reservation was vacant.

Euroamericans generally avoided the area until the California gold rush of 1849. Miners, spurred on by strikes in the north, spread out over the California deserts in search of gold in the 1850s. Some of these miners became the first settlers of Twentynine Palms. In 1873, the southern area was designated the Palm Springs Mining District. Mining activities in the northern area accelerated in the 1880s with the opening of the Atchison, Topeka and Santa Fe Railroad (ATSF). The Lava Beds Mining District was established at this time, producing silver and copper ore. Miners around Sunshine Peak shipped ore to refineries by means of the Lavic Railroad Stop (Irelan 1893; Myrick 1962; Vredenburgh et al. 1981). By the turn of the century, fluctuations in the price of silver, coupled with a limited return, had forced the closure of most mines. During the Depression, limited mining again took place but never provided a stable economic base.

American settlers, like the Native Americans, congregated at Mara Oasis, Mesquite Spring, and Surprise Spring. These oases were the focal points of miners, a few ranchers, and, after World War I, a small number of settlers attracted by homesteading (Bagley 1978; Cates 1984). Many World War I veterans came to the area in the 1920s on the recommendation of Dr. James Luckie (Bagley 1978), including the Campbells, who are well known and respected for their archaeological exploration of the area. In the 1930s, Twentynine Palms eclipsed neighboring settlements such as Mesquite Spring, Surprise Spring, and Key's Ranch (Parker Hickman 1977) and emerged as the regional commercial and governmental center. Although ambitious economic development enterprises such as land yachting on Mesquite Lake were launched, it was not until the Army established Camp Condor in 1941 that the area's economic base became secure.

Military interest at Twentynine Palms originally focused on the training of glider crews. In 1943, Camp Condor's mission shifted to powered flight in line with the military needs of World War II. After the war, the base lay dormant until 1952 when Camp Condor was taken over by the Marine Corps. Artillery units began training at the base in 1953, and in 1957 the camp was commissioned as a Marine Corps base. In 1979, it was officially renamed the Marine Corps Air Ground Combat Center (MCAGCC).

City of Joshua Tree

History

Approximately 15 miles northwest of Twentynine Palms is the town of Joshua Tree. Like many mining areas in the Southwest, Joshua Tree followed the boom/bust pattern. Mines and camps had periods of sporadic prospecting, intensive activity, and abandonment depending on the richness of the strikes, capital, equipment, and availability of water. Joshua Tree was booming after World War II and was the headquarters of Col. E. B. Moore, the leader of a movement to attract veterans to the high desert. The town of Joshua Tree is near the northern edge of Joshua Tree National Park. Joshua Tree National Park consists of 794,000 acres and encompasses the transition between the Mojave and Colorado deserts. This area became a National Monument in 1936, a Biosphere Reserve in 1984, and a National Park in 1994. Near the northwestern edge of Joshua Tree National Park is the town of Yucca Valley. Yucca Valley was subdivided as early as 1926, but development was stopped by the Depression. By 1946, Yucca Valley was billed as the cream of the desert by Orange County developers (Parker Hickman 1977; Parker 1980).

Apple Valley and Victor Valley

History

Apple Valley was named by Mrs. Ursula M. Poates, an early land developer in the area, who apparently planted three apple trees in her yard to convince potential clients that fruit could be grown in the high desert (Gudde 1969). The post office in Apple Valley was established in 1949 at a resort city developed by Newt Bass. Apple Valley is one of the most centrally located cities in southern California and is found on the Mojave River in the high desert. Father Garcés and Jedediah Smith had been the only white men to enter this part of the high desert before John C. Fremont trekked up the Mojave River in 1884. Mining was prevalent in this area and hundreds of acres of fruit orchards were planted. After World War I, the orchards died and much of the valley returned to desert. Land development was begun again after World War II by oil field wildcatters Newton Bass and B. J. Westland. Bass and Westland purchased 20,000 acres east of Victorville from the Union Pacific Railroad, and the area was known as a retreat for movie stars, as well as the site of several movie productions.

City of Hesperia

History

Hesperia is located west of Apple Valley at the intersection of I-15 and U.S. 395. The area of the town (approximately 35,000 acres) was first acquired in 1869 by Max Strobel (Swisher 1997; McKenna and Williams 1994 as cited in SWCA 2000), then sold to a group of Germans in 1871. The ATSF ran the first tracks through the area and, after the completion of the depot in 1885, the area was officially named Hesperia. Joseph Widney acquired the township of Hesperia in 1885 and formed the Hesperia Land and Water Company for the purpose of creating a town. The town was advertised as the Denver of the West with a huge future population and extensive fruit orchards (Peirson 1970). Although these fruit orchards did not come to pass, Hesperia did produce grapes and ship wines throughout California and to the east. By the 1920s, there were still only a few buildings in the town. With the beginning of cross-country automobile travel in the early 1900s, travelers went directly through Hesperia, which was the last major stopping point for automobile needs before crossing Cajon Pass. The city of Hesperia was incorporated in 1988.

City of Victorville

History

Victorville is located in Victor Valley, which lies on the north side of San Bernardino and Sierra Madre Mountains, on the other side of Cajon Pass from the city of San Bernardino. The head of the Mojave River is in the San Bernardino Mountains and runs north through Victorville. The town was originally called Victor after Jacob Nash Victor, a railroad pioneer. Victor was a manager of the California Southern Railway (a part of the Santa Fe Route), which helped link San Bernardino with Barstow by way of the Cajon Pass and thus completing the transcontinental route. In 1901, the U.S. Post Office changed the name of the town to Victorville because of a conflict with another town already named Victor in Colorado. The first of the great southern California land booms took place in the 1880s when government-owned land became available for homesteading. A series of wet years fueled the influx, but a serious drought caused extensive abandonment of the area during the drought years of 1896 to 1903. Euroamerican settlement in the Victorville area started because of the Mormon Crossing (1878 to 1885) and subsequent mining that dominated the area. Mining in the area had its heyday until about 1900, and

the motion-picture industry discovered Victorville's charms around 1914. The town was used as the backdrop for more than 200 Western films from 1914 until 1937 (Gillis 1939).

Lucerne Valley Area

History

The first recorded homestead claim in Lucerne Valley was in 1873 by Peter Davidson, who built his way station at Rabbit Springs. This way station was the only place for food and lodging for teamsters traveling from Victorville up to Big Bear, where a dam was being built. W.W. Brown arrived in the area in 1886 and was the first to reside on the property that would later become the Box S Ranch. In 1896, Al Swarthout, who had the Box S as his cattle brand, bought the property and a year later moved farther east to Old Woman Springs Ranch. The Box S Ranch was then taken over by James Goulding and his family, who had arrived from Colorado in 1897. Goulding was successful in growing alfalfa (called lucerne by Mormons in southwest Colorado), and he named the locale "Lucerne Valley" (Chickering 1948). Goulding, who is considered the founder of Lucerne Valley, developed the Box S Ranch for the community and the first school, library, and post office were established there.

The vicinity of Rabbit Springs and Chimney Rock in the Lucerne Valley is also the scene of the last sizeable conflict between Native Americans and new settlers in southern California. In 1867, a group of Paiutes supposedly burned several cabins and a sawmill in the San Bernardino Mountains because they were angry at the loss of their traditional resource areas. They retreated to Chimney Rock, where there was a Chemehuevi village, and prepared for war with an approaching posse. As many as 100 of the Paiute/Chemehuevi group were killed or wounded (Swisher 1997).

Old Woman Springs was supposedly named because Henry Washington, the GLO surveyor, found two Indian women at the springs in 1855 when he surveyed the baseline (Gudde 1969; Swisher 1997).

Several cities are located south of the project area within the vicinity of SR 30 and the San Bernardino Freeway, including Big Bear Lake, Ontario, San Bernardino, Yucaipa, San Dimas, Irwindale, Walnut, and Monrovia. Further discussion of these areas is not included here because they would not be affected by the proposed project ROW.

Los Angeles County

Natural Setting

The on-ROW route continues through the Transverse Ranges at the western extent of the San Gabriel Mountains, from Antelope Valley into the San Fernando Valley and the Los Angeles Basin, where urbanization dominates the setting. The small pockets of natural environment consist of transitional areas of California chaparral, California valley grassland, and California coastal scrub. Along waterways, such as the Los Angeles River, are linear patches of estuary communities.

Prehistory

A vast amount of unpublished archaeological data is available for the Late Pleistocene era in southern California. Unfortunately, given the expansive and early urbanization of metropolitan Los Angeles, there is not as much information for that area as for neighboring coastal areas to the north and south. As much as possible, information for the Los Angeles area is derived from published excavations from that county but is augmented with information from neighboring counties. Los Angeles area sites or remains

originally thought to date to the Pleistocene include the human cranial fragments from the "Los Angeles Man" site discovered at Ballona Creek north of Baldwin Hills; the six human skeletons from the Haverty Construction Company site in the Angeles Mesa area between Los Angeles and Culver City; and the well-known "La Brea Woman" skeletal remains from the La Brea Tar Pits in Hancock Park.

The primary evidence for claims of great antiquity at these sites, and others in southern California, is the similarity of crude "tools" to Paleolithic tools from the Old World, relative patination and/or embeddedness of the artifacts, questionable radiocarbon dates, and equally questionable associations of "tools" and Pleistocene fauna (Bamforth and Dorn 1988 as cited in SWCA 2000; McGuire and Schiffer 1982 as cited in SWCA 2000; Payen 1982 as cited in SWCA 2000). Claims of antiquity have been further eroded by more reliable dating methods (Bada 1985; Taylor et al. 1985 as cited in SWCA 2000).

Subsequent periods of occupation identified for the greater Los Angeles region include the Early Holocene (12,000 to 7,000 BP). Several Los Angeles area sites (including those listed above) are now firmly placed in the Early Holocene period or later, with early radiocarbon dates ranging from 10,500 ± 200 years BP to 3,560 ± 220 years BP (Erlandson 1994 as cited in SWCA 2000; Taylor et al. 1985 as cited in SWCA 2000). Of the earliest Los Angeles sites discussed by Moratto (1984) and Erlandson (1994 as cited in SWCA 2000), only Malaga Cove (Wallace 1955 as cited in SWCA 2000) and Sweetwater Mesa (King 1967 as cited in SWCA 2000) have extensive assemblages. The Malaga Cove work has never been completely described, but no milling tools were recovered from the lowest occupation level. Shellfish remains at the Sweetwater Mesa site indicate that no major estuary existed nearby at the time the site was occupied, at the cusp between the early and middle Holocene periods. Faunal remains include deer, small mammals, and other vertebrate remains. Projectile points similar to Lake Mojave and Silver Lake points are sometimes found at coastal sites, but bone fishing tools are more common. Crescentics, charmstones, ornaments (Erlandson and Colten 1991 as cited in SWCA 2000), and perishables (Connolly et al. 1995 as cited in SWCA 2000) are rare.

Following the Early Holocene are the Middle Holocene (7,000 to 4,000 BP) and the Late Holocene (4,000 B.P to contact). Viewed as a time of extensive environmental and cultural change in southern California, the Middle Holocene is believed to have originated a tool kit that includes mortars and pestles, diverse hunting and fishing technologies, and changes in settlement and subsistence practices (Erlandson and Colten 1991 as cited in SWCA 2000; Moratto 1984). In the Middle Holocene, Los Angeles area sites are found primarily along the coast and in inland river valleys (Bates 1972 as cited in SWCA 2000; Cooley 1984 as cited in SWCA 2000; Heizer and Lemert 1947 as cited in SWCA 2000; King 1967 as cited in SWCA 2000; Rozaire 1960 as cited in SWCA 2000; Treganza and Bierman 1958 as cited in SWCA 2000; Treganza and Malamud 1950 as cited in SWCA 2000; Wallace 1954; Wallace et al. 1956 as cited in SWCA 2000). During the Late Holocene, technology and subsistence practices continue to diversify, and economic and population expansion along with resource intensification occurs in most areas of southern California (Basgall 1987 as cited in SWCA 2000; Erlandson and Colten 1991 as cited in SWCA 2000; Erlandson and Yesner 1992 as cited in SWCA 2000; Hildebrandt 1997 as cited in SWCA 2000; McDonald 1992 as cited in SWCA 2000; Schaefer 1994 as cited in SWCA 2000; Sutton 1996 as cited in SWCA 2000; White 1998 as cited in SWCA 2000).

Far more late-period sites are obvious in southern California when compared to the numbers of sites dating to earlier periods. Although this may be due, in part, to sampling error or depositional processes, it appears that a large population influx or increase took place during this last period of prehistory. Resources were exploited more intensively, populations consolidated, and the range of foraging territory decreased. In the deserts, this is evidenced in part by the use of local lithic materials in the manufacture of tools that show increasing degrees of specialization, and site occupation during this period is longer and more regular than during previous eras (McGuire and Hall 1988 as cited in SWCA 2000).

Ethnography/Ethnohistory

The group occupying the Los Angeles portion of the proposed project area at the time of historic contact was the Gabrielino people (Bean and Smith 1978). The Gabrielino territory once included present-day Los Angeles County south of the San Gabriel Mountains, the northern half of Orange County, the three southern Channel Islands, and the western portions of San Bernardino and Riverside Counties, an area of more than 1,500 square miles. The group's territory also may have included San Bernardino Valley (Kroeber 1925), although Reid (1968 as cited in SWCA 2000) recorded San Bernardino and Jurupa in Riverside as Serrano villages. This vast territory encompassed the watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers; Aliso Creek; Topanga Canyon; and other small streams in the Santa Monica and Santa Ana Mountains (Bean and Smith 1978b; McCawley 1996 as cited in SWCA 2000).

The Gabrielinos are members of the Shoshonean branch of the Uto-Aztecan linguistic family (Swanton 1952 as cited in SWCA 2000). There were four to six dialects spoken within the Gabrielino tribe. The four dialects noted by Harrington include Gabrielino proper in the Los Angeles Basin, Fernandeño from the San Fernando Valley area, and dialects on the Santa Catalina and San Nicolas islands (Bean and Smith 1978b as cited in SWCA 2000).

Settlement and subsistence systems differed between the coastal, island, and inland Gabrielino groups. The inland areas occupied by the Gabrielino were rich and productive, including river valleys and the mountains. Like the Serrano and other inland southern California tribes, the Gabrielino maintained permanent geographical territories with a primary settlement area (McCawley 1996). Hunting and gathering areas and other satellite settlements were used on a more temporary basis, such as for gathering acorns in the fall. Political and social development and control of these traditional territorial areas is not well known, but permanent ethnographic villages appear to have been placed near the intersection of two or three environmental zones, as is the case with the Cahuilla and Luiseño. Favored locations appear to have been the prairie-foothill transition zone at the margins of the interior plains, elevated areas near major watersheds, and sheltered bays and inlets. The San Fernando and San Bernardino Valleys were less densely populated than the coastal areas such as the San Gabriel Valley or the Palo Verdes Peninsula (McCawley 1996 as cited in SWCA 2000).

Little is known about the social and political structure of the Gabrielino. They appear to have used a moiety system similar to that of other southern California Takic speakers, although it did not have a function in socioeconomic relationships. Villages were composed of several non-localized lineages, each with its own leader, and the village chief was usually the leader from the dominant lineage. Succession to office was usually patrilineal, going to the eldest son, but community elders could select a new chief, male or female, from the same kin group. Chiefs arbitrated disputes, collected taxes (gifts for guests at ceremonies), led war parties, and negotiated peace treaties (Bean and Smith 1978b as cited in SWCA 2000). In contrast to most southern California tribes but similar to the Chumash, the Gabrielino had hierarchical social classes. The elite included chiefs, who had a special language, along with their immediate families and the very rich. A middle class was established among well-to-do and long-established lineages, and the remainder of the population constituted the third class (Bean and Smith 1978b as cited in SWCA 2000).

History

Los Angeles County, one of California's original 27 counties, was established on February 18, 1850. The Board of Supervisors, created by the state legislature in 1852, is the governing body. Voters within their respective districts elect five supervisors to 4-year terms. The Board of Supervisors has executive, legislative, and quasi-judicial roles. It appoints all department heads other than the assessor, district attorney, and sheriff, who are elected.

Originally, the county occupied a comparatively small area along the coast between Santa Barbara and San Diego, but within a year of founding its boundaries were enlarged from 4,340 square miles to 34,520 square miles, an area sprawling east to the Colorado River.

During subsequent years, Los Angeles County slowly grew to its present size, the last major detachment occurring in 1889 with the creation of Orange County. Los Angeles County remains one of the nation's largest counties with 4,081 square miles, some 800 square miles larger than the combined area of the states of Delaware and Rhode Island.

Los Angeles County includes the islands of San Clemente and Santa Catalina. It is bordered on the east by Orange and San Bernardino Counties, on the north by Kern County, on the west by Ventura County, and on the south by the Pacific Ocean. Its coastline is 76 miles long.

It has the largest population (9.9 million as of January 2000) of any county in the nation and is exceeded by only eight states. Approximately 29 percent of California's residents live in Los Angeles County.

Los Angeles Basin

History

Burbank, as a townsite, came into being on May 1, 1887, and became incorporated on September 11, 1911. The city of Burbank was originally part of two separate Spanish land grants: Rancho San Rafael to the north and Rancho La Providencia to the south. Corporal Jose Maria Berdugo (later changed to Verdugo) established title to the Rancho San Rafael in 1798. This rancho was one of the largest Spanish grants and comprised 36,000 acres from the Arroyo Seco to the Mission San Fernando (Hoover et al. 1990). The rancho included most of present-day Glendale, Burbank, Eagle Rock, and Highland Park. After the death of Verdugo, an 1871 court decision known as the Great Partition dissolved the Rancho San Rafael. Dr. David Burbank, a dentist from Los Angeles and the man for whom the city is named, purchased Rancho La Providencia in 1867 and began a successful sheep ranch. Burbank sold his holdings in 1887, and these lands, combined with portions of the Rancho San Rafael, formed the townsite of Burbank.

Glendale was platted as a town in 1887 and was incorporated as a city of the sixth class on February 21, 1906. The town of Glendale was formed from portions of the Rancho San Rafael (Hoover et al. 1990). The name "Glendale" is older than its plat and was adopted at a schoolhouse meeting of all the people in the valley in 1884 (Robinson 1939). In 1904, the extension of the Pacific Electric Railway was completed and Glendale was linked with all of southern California.

Los Angeles, the second largest city in the U.S., was founded in 1781. In 1542, Portuguese explorer Juan Rodriguez Cabrillo, sailing under the flag of Spain, arrived in the harbor of San Pedro and became the first westerner in the area that is now Los Angeles. Cabrillo did not stay long and it was not until the late 18th century that Spain established a more permanent presence within the area. El Pueblo de Nuestra Señora la Reina de los Angeles de Porciúncula was the second of three original pueblos that were established within Alta California. The area around Los Angeles was made up of numerous ranchos that had been granted by the Spanish and Mexican governments. Los Angeles was officially founded on September 4, 1781, by order of the governor of Alta California, Felipe de Neve. The first two sites of the settlement were flooded out and the third site, from which the settlement grew, was established between 1825 and 1830 (Hoover et al. 1990). The Church of Nuestra Señora la Reina de los Angeles is the oldest building within this plaza; its construction began in 1818, and it was dedicated in 1822. Nearby is the Ávila Adobe at 14 Olvera Street, which is the oldest dwelling house in Los Angeles. El Pueblo de Los

Angeles State Historic Park is on the National Register of Historic Places (NRHP); of the 27 historic buildings within the park, 16 are listed individually on the register.

Los Angeles began as a city within a province of Spain, then a city within the territory of the Republic of Mexico, followed by a portion of the short-lived Republic of California, before being ceded to the United States. The Mexican Rancho period ended when the United States declared war against the Mexican government in 1846. By the Treaty of Guadalupe Hidalgo, California was ceded to the United States in 1848, and 2 years later California was admitted to the Union. On February 18, 1850, the limits of Los Angeles County were mapped out to include all the territory between San Diego and Santa Barbara, around 34,000 square miles. The counties of Kern, Orange, Riverside, San Bernardino, and Ventura separated later from Los Angeles County. The City of Los Angeles was incorporated on April 4, 1850, and California entered the union on September 9, 1850.

In 1876, the Union Pacific Railway linked Los Angeles and San Francisco, and by 1885 a second rail linked Los Angeles with the Santa Fe Railroad. Within a few years, more than 100,000 newcomers had arrived in the area. This created a real estate boom that drove land prices up and the bubble finally burst in 1887, leaving many paper millionaires suddenly penniless—and leaving the city's Mexican-American population a minority class, where it had been the ruling class only a generation before. Oil became important in the Los Angeles economy in 1892, when Edward L. Doheny and Charles A. Canfield drilled the first well in a resident's front lawn. Soon there were 1,400 wells within the city, and more in the surrounding area.

By this time, however, Los Angeles was beginning to fear a shortage of water. Located in a semi-desert region, it required more than El Rio de Nuestra Señora la Reina de los Angeles, now called the Los Angeles River, to sustain its growing population and expanding industries. In 1904, William Mulholland, chief engineer of the Los Angeles Water Department, proposed bringing water by aqueduct across the Mojave Desert from the Sierra Nevadas. By 1908, after some questionable political and financial maneuverings by civic leaders, the project was underway. In just 5 years, Mulholland constructed an aqueduct more than 200 miles long that ran through 142 tunnels. This tapped the Owens River and virtually drained Owens Lake, turning a once-fertile part of the southern Sierra Nevada into a wasteland.

There are 88 cities within the county, each with its own city council. All of the cities, in varying degrees, contract with the county to provide municipal services. Thirty-seven of these cities contract for nearly all of their municipal services. Some of the cities and areas within the county, which are important historical development centers within the proposed project ROW, are described below.

San Gabriel Mountains

History

Soledad Canyon forms the western boundary of the San Gabriel Mountains and is located south of Palmdale. A rush to Soledad Canyon occurred in 1861 when copper was discovered. Because there was already a Soledad in Monterey County, Soledad Canyon was also called Ravenna. The Southern Pacific Railroad came through Soledad Canyon in 1875 through 1876 and provided an easy way to bring in machinery and take out processed ore. When the mining in Soledad Canyon became more expensive, Soledad Canyon became a ghost town as miners moved up the canyon to the new railroad siding of Acton. An old ore mill in Ravenna was later converted to a paper mill, using Joshua trees cut and hauled in from Palmdale by Chinese workers (Cates 1984).

San Fernando Valley

History

San Fernando was incorporated as a city in August 1911 and is located 21 miles north of Los Angeles. To help complete the chain of missions within California, the San Fernando Mission was established between San Gabriel (1771) and Buenaventura (1772) Missions. The mission was founded on September 8, 1797, and was named San Fernando Rey after Ferdinand III of Spain. This location, the Reyes Rancho, which was being used by Francisco Reyes, the alcalde of the pueblo of Los Angeles, was chosen because San Gabriel and Buenaventura were more than one day's travel apart. In 1846, the Mexican government, which ordinarily gave grants of land as a gift of the government, sold the land around the mission to raise money in defense of California from the United States. The 13 Leagues[2] Ranch was sold to Don Eulogio de Celis for $14,000 (Robinson 1939). The town of San Fernando was originally laid out by Hon. Charles Maclay, who later founded the Maclay College of Theology between 1874 and 1877.

City of Palmdale

History

In 1772, Captain Pedro Fages became the first European to cross through the Antelope Valley. Indians told of having seen white people before this time, whom they thought were deserters from the Spanish army in the south, but none of their names were recorded. Father Garcés came through the west end of the valley on his way to the Mission of San Gabriel in 1776. Jedediah Smith and his party traveled through the west end of the valley in 1827, and in 1844 John C. Fremont and his party also passed through the west end of the valley. Permanent Euroamerican settlement of the Antelope Valley area began after the discovery of gold in the 1840s and 1850s, but the bulk of the valley was not settled until the 1870s, after the establishment of the first railroad line (Earle 1997). When the Southern Pacific Railroad completed its line through the valley in 1876, settlers came to the area and the Antelope Valley entered a new era of growth.

The towns of Lancaster, Alpine (later called Palmenthal and then Palmdale), and Rosamond started to build up around the new Southern Pacific Railroad grant sections. Palmenthal was named for the Joshua tree when it was settled in 1886 by a group of German Lutherans. The post office was established in 1888 and the town changed its name in 1890 (Gudde 1969). Pearblossom, a small town just east of Palmdale, was named in 1924 because it was the center of pear orchards (Gudde 1969).

Lancaster News, the first weekly paper in the valley, was first published in 1885. After a decade of boom and bust during the 1890s, settlers' farms failed because of drought and land promoters' scams that caused title problems. In 1904, William Barton was the first to use a gasoline engine to pump water from his well. Other farmers were quick to adopt this method of pumping, which proved to be a vast improvement over the former reliance on water from artesian wells. This was the beginning of the great valley alfalfa industry, and the valley quickly became one of the biggest producers of alfalfa in California.

The Llano del Rio colony was founded by Job Harriman, a prominent socialist attorney and politician, in 1914 when he became disillusioned after losing a race for mayor of Los Angeles (Miller 1990). Cooperative living experiments had been popular in California since the 1850s, and more viable communes have been developed in California than anywhere else in the country. Like Llano del Rio, all the communes have tried, with little success, to support themselves by means of farming, logging, mining, craftwork, or fiscal legerdemain. Llano del Rio also lacked rights to irrigation water, which

helped doom the colony. In 1918, the colony chose to move to a town in Louisiana, and the New Llano colony was finally liquidated in 1938.

City of Santa Clarita

History

The city of Santa Clarita is located in North Los Angeles County, situated within the "V" formed by Interstate 5 and SR 14. The city is approximately 35 miles northwest of the Los Angeles Civic Center. Current municipal boundaries encompass approximately 40.3 square miles of land, primarily on the floor of the Santa Clarita Valley and the lower reaches of the surrounding canyons. The Santa Clarita Valley is separated from the San Fernando Valley by ridgelines of the San Gabriel and Santa Susana Mountains. Ridgelines of the Sierra Pelona Mountains define the valley's northern reach.

The Santa Clarita planning area encompasses several distinct communities, both within the city limits and in the surrounding unincorporated areas. Communities within the city include Newhall, Valencia, Saugus, and Canyon County, with subcommunities of Sand Canyon and Placerita Canyon. The communities of Castaic and Val Verde are currently within unincorporated portions of the planning area. The location of each community is indicated in the Land Use Element of the city's general plan (Santa Clarita 1991).

The Santa Clarita Valley is along the natural migration route between the coastal and desert areas of Southern California. The region's natural streams and oak woodlands provided dependable sources of food and water. These factors were important in contributing to the early settlement of the valley.

The valley has an extensive historical background representing the early settlement of California, the initial development of California's resources, and historic filming sites for Hollywood "westerns." Many historical resources have been identified in the valley, including one site listed on the NRHP, eight California Registered Historical Landmarks, and four State Points of Historic Interest.

Several historic trails cross the Santa Clarita Valley. In 1769, Captain Don Gaspar de Portola blazed the trail that would become El Camino Viejo (The Old Road) on his expedition to found San Diego and Monterey. Don Pedro Fages, commander of the Presidio of San Diego traveled through Castaic Junction and Soledad Canyon in 1772 in search of Army deserters (Santa Clarita OS-14 1991).

Paleontological Resources

Fossils are considered to be a non-renewable resource and can provide increased understanding of the phylogenetic histories of species; reveal previous climates, topography, geography; and aid in developing evolutionary history. Fossils are found in geologic formations that are sedimentary or formed from cool volcanic flows.

Conditions along the proposed route are generally poor for fossil remains. Most of the route crosses the Basin and Range physiographic province, which contains mostly heavily metamorphosed bedrock or igneous formations. Such formations do not typically contain fossils. Some areas, however, have substantial areas of bedrock with a high potential for paleontologic resources. These three areas are classified as High Sensitivity A, which is "based on formations or mappable rock units that are known to contain or have the correct age and depositional conditions to contain significant paleontologic resources" (Reynolds, 2001). Sediments in the High Sensitivity A category include rocks of Silurian and Devonian age and younger that may contain remains of fossil fish and Mesozoic and Cenozoic rocks that contain body elements and trace fossils such as tracks, nests, and eggs.

Field Survey and Recording Methods

A historic and cultural resources survey of the proposed project ROW route and off-ROW sites was completed by SWCA, Inc., in May 2000. The findings of this survey were compiled into a draft report submitted to the BLM in October 2000 (*The El Paso To Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the California Segment, Riverside, San Bernardino, and Los Angeles Counties, SWCA, Inc. 10/2000*). The findings of this report have been included in the discussion below. The references cited in the following sections are found in the SWCA 2000 report as well.

Field Survey Methods

For the California segment of the EPGN survey, a six- or eight-person survey crew was divided into teams of two persons, each member of each team walking pedestrian transects aligned on each side of the survey route. Each team member examined a swath 15 meters (50 feet) in width from the edge of the road pavement outward, away from the road. Where the proposed ROW follows the All American Pipeline, surveyors spaced 15 meters apart examined a 100-foot-wide corridor. Each team generally walked transects 2 miles in length, "leapfrogging" with other teams sharing the same vehicle. Caltrans-approved "Survey Crew" warning signs were placed at the ends of each section of the route, and each survey crew member wore a bright orange safety vest or T-shirt and a hard hat.

A single sequence of temporary numbers was assigned to sites and non-site resources after fieldwork was completed, starting on the eastern end of the California survey segment and proceeding west. All recorded sites were evaluated for archaeological significance in accordance with criteria established under CEQA Section 15064.5 and under 36 CFR 60.4 (Section 106), following National Park Service guidelines. Procedures for evaluating eligibility for listing on the NRHP included consideration of integrity, chronology, prehistoric and historical settlement patterns, and other research issues, with reference made to previous surveys and excavations.

Recording Methods

Recording

Since the 1995 introduction of the new Manual for Recording Historic Resources (Office of Historic Preservation [OHP] 1995) and new site recording forms, sites are no longer defined as three artifacts or more within a radius of 25 meters. Instead, the definition of a site is "the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure" (OHP 1995:3). The level of effort used to record resources of varying levels of complexity and value is left to professional judgment, but the OHP still encourages detailed recording methods.

Site Definitions

In accordance with the OHP guidelines, sites and buildings more than 50 years old were recorded and mapped on USGS 7.5-minute (1:24,000) scale topographic maps. A 50-meter distance with no intervening artifacts, if there was no natural separation by topographic or geologic features, was the minimum distance used to separate artifact scatters into distinct, individual sites. Sketch maps were made of each site. All data on location, description, geomorphology, vegetation, size, artifact content, current condition, and ongoing impacts were recorded on California State Parks and Recreation forms. These

forms were submitted to the appropriate California Historical Resources Inventory System clearinghouse for official trinomial designations, which will be incorporated into the final report.

Historical buildings were recorded if their property lines were within the ROW, although many of the buildings themselves are not within the narrow impact corridor. A complete building survey was not conducted for this proposed project, and only minimal information was recorded for most historical buildings. For this reason, archival research was not conducted to determine firm dates of construction, ownership records, and other information.

Isolated artifacts were plotted on topographic maps and described briefly during the course of the survey. These artifacts are reported in tabular format within the body of the report.

One other "site" category, Small Tract Act homestead or "jackrabbit claim," was recorded in tabular format; for the most part, no Primary Records or Building, Structure, and Object (BSO) Records have been filed on these 5-acre homesteads because they do not meet the 50-year age criterion. The vast majority of these homesteads were built in the late 1950s and later, as determined by comparison of USGS 15-minute topographic maps from the early to mid-1950s to later versions of USGS 7.5-minute topographic maps. Most of these abandoned homesteads are clustered in an area from Lucerne Valley to just east of Twentynine Palms. Abandoned and unsightly jackrabbit claims are being destroyed by San Bernardino County, and notices are posted on many of the structures examined in the field.

Previous Archaeological Research

This section is based on anthropological research within a 1-mile study area on either side of the proposed fiber-optic cable alignment. Archaeological site record searches were conducted using the California Historical Resources Information System (CHRIS) site record and National Archaeological Database (NADB) report files at the Eastern Information Center (University of California, Riverside), the San Bernardino Information Center (San Bernardino County Museum), and the South Central Coastal Information Center (California State University, Fullerton, formerly at the University of California, Los Angeles).

Native American Consultation

Between February and December 2000, SWCA sent initial contact letters and made follow-up telephone calls to the following groups in California regarding the El Paso Global Networks Company Project: the Gabrielino-Tongva Tribe, the Kern Valley Indian Community, the San Manuel Reservation, the Twentynine Palms Reservation, the Morongo Reservation, the Colorado River Indian Tribes (CRIT), the Chemehuevi Indian Tribe, and the Fort Mohave Indian Tribe. All of these groups have either indicated that they have no concerns at this time or they have not responded to any of the subsequent mailings or telephone messages sent. Mr. Larry Meyers, Executive Secretary of the California Native American Heritage Commission, was contacted directly by the BLM regarding this proposed project.

Archaeological Sites and Surveys within 1 Mile of the ROW

Studies on file in the CHRIS at the three repositories for the California study area include primarily archaeological surveys, a few excavation reports, and several ethnographic and ethnohistoric studies. Negative surveys are those that recorded no archaeological resources within 1 mile on either side of the

California portion of the proposed El Paso to Los Angeles telecommunication system ROW, regardless of positive results outside the study area.

Previously Recorded Sites within the ROW

A total of 329 prehistoric and historic-period archaeological sites have been recorded within the 1-mile study area on either side of the ROW. Of these sites, 30 appear to be located within the project ROW; the present status of these sites is discussed below.

Thirty previously recorded sites were identified that are, or were, within the proposed project survey areas (50-foot-wide transects bordering roads and pipelines) (Table 4.6-1). Of these, five sites (RIV-3604, RIV-3628H, SBR-3435, SBR-7994H, and 19-150148) have been completely destroyed by construction or previous archaeological treatment. Four sites (RIV-872T, RIV-1113H, LAN-630, and LAN-2148T) were found but have been destroyed within the proposed project ROW. Two sites (RIV-1498Hand SBR-2910H) have been affected by previous development and lack integrity within the ROW, and six sites (SBR-3033H, SBR-4179H, SBR-4269H, SBR-4272H, SBR-4411H, and LAN-1610H) were not visible within the ROW and are presumed to have been destroyed by natural erosion and recent development (Table 4.6-2). Nine sites (SBR-7694H, SBR 9853H, PSBR-38H, PSBR-39H, LAN-1534H, LAN-2105H, LAN-2132H, LAN-2149H, and LAN-2677H) within the ROW were encountered and evaluated, but the current site condition of these sites does not differ from that previously reported; most of these sites are overhead electrical transmission lines, buried aqueducts, or roads.

Tables 4.6-1 and 4.6-2 provide brief descriptions and the current status of previously recorded sites within the proposed project ROW.

Table 4.6-1. Previously Recorded Sites in the EPGN ROW

Quadrangle	Trinomial	Site Description and Notes
Riverside County		
Big Maria Mountains SW	CA-RIV-872-T	Site not relocated by Eighmy et al. at location where mapped by Savio, possibly due to transfer from 15' map to 7.5' map. Site is part of the "Halchidoma" trail extending from the Blythe geoglyph to Redlands. Crosses the AAP and Midland Road.
Blythe NE	CA-RIV-1113H	Site record indicates that the area is the "old Blythe area dump," with bottles, cans, metal objects, and assorted trash.
Blythe NE	CA-RIV-3628H	Site consists of four distinct clusters of debris. Artifacts include plain and decorated ceramics, bone, metal, glass, and tin cans. This site is a portion of the Blythe town dump (CA-RIV-1154), which has eroded downslope.
Little Maria Mountains	CA-RIV-1498H	Historical well and remains of a processing works. A concrete foundation with metal rods may have supported a water tank, and a deep hole on the opposite side of the road was probably the well. Other concrete slabs were also recorded, and artifacts include barbed wire, metal posts, metal strips, glass shards (clear, SCA, aqua, brown, and green), wire, wire nails, cans, china, tin, metal cable, and springs from a car seat.
Styx	CA-RIV-3604	Small scatter of eight brown plainware sherds, possibly Tizon Brown or Colorado Brown found during AAP survey; likely destroyed by construction of pipeline.
San Bernardino County		
Adelanto	CA-PSBR-38H	San Bernardino-Boulder Dam 132kV line. Three-cable transmission line supported by a series of twin-tower H-frame supports. The line was built to supply power for construction of Hoover Dam; upon completion of the dam, the line was reversed to provide power from the dam to San Bernardino.
Adelanto	CA-SBR-7994H	1950s-1960s roadside stand with a nearby refuse deposit dating from the 1920s to the 1990s. Artifacts include porcelain, stoneware, a cobalt glass medicine bottle with a continuous-thread finish, other glass shards, and other household items. Modern construction currently exists on site.
Adelanto, Baldy & Mesa	CA-SBR-4272H	The Salt Lake-Santa Fe trail, also known as the Old Spanish Trail, may have been used by Fages in 1772, then by Zalvidea (1806), Jedediah Smith (1827), William Wolfskill (1830), and others into the 1860s, but appears to have been replaced by John Brown's toll road in 1861. None of the site records for portions of the trail on quadrangles within the project area found any indication of an intact trail, which was mapped on 7.5' quadrangles from the original topographic maps of the area.
Adelanto, Baldy & Mesa	CA-SBR-4411H	The Mormon Road, laid out by William Sanford in 1850, as shown on the San Antonio (1903) and Hesperia (1902) 15' quadrangles. In San Bernardino County, the road runs southwest from the Tejon-Palmdale cutoff from Lane's Crossing to the Tejon Road, then southerly through the center of the SW¼ of the SW ¼ of Sec. 4, T3N, R6W, then southerly into West Cajon Canyon where it intersected the Sanford Road at the approximate location of SR 138.
Adelanto, Baldy & Mesa, Hesperia	CA-PSBR-39H	34-mi.-long Kramer-Victor 115kV transmission line, a portion of what was originally the Southern Sierras Power Company's Control-San Bernardino 140kV transmission line. Line is still in use, has been rebuilt to accommodate growing needs in the area.
Arica Mountains, Rice	CA-SBR-9853H	Atchison, Topeka & Santa Fe RR, Parker cutoff. This is the RR that runs E/W just north of SR 62 at the town of Rice.
Baldy Mesa	CA-SBR-4179H	A northerly branch road from Brown's toll road, running from Section 33 (T4N, R5W) to the Salt Lake Trail in Section 34 (T4N, R5W), then northerly to Lane's Crossing on the Mojave River. May postdate Brown's toll road (1861) but predates the Southern California No. 1 quad (1901) and the Hesperia quad (1902), both surveyed in 1898-1899.
Baldy Mesa	CA-SBR-4269H	Oro Grande Wash Road, which supposedly crosses the Mojave Water District pipeline ROW on the Baldy Mesa map. No evidence of the road specifically noted (there is massive off-road use of the area). Same was noted on the previous site record update, and it is likely that the site was mapped from a historical topo. The road supposedly goes right down the middle of the wash, so it makes sense there would be no sign of it.
Baldy Mesa	CA-SBR-7694H	Pair of 287.5kV power lines, "Boulder 1" and "Boulder 2," that provide power to the City of Los Angeles from Hoover (Boulder) Dam. Lines are mounted on parallel rows of Y-frame galvanized steel towers 109 feet tall and spaced approximately 400 feet apart. Determined NR eligible.
Bighorn Canyon	CA-SBR-3435	Small cluster of several brown plainware sherds, probably from one pot drop.

Quadrangle	Trinomial	Site Description and Notes
Hesperia	CA-SBR-2910H	National Old Trails Highway or Route 66, listed on the National Register as NRHP-E-OHP-3926. Twelve portions of the road have been recorded within San Bernardino County, mostly small segments where the road intersects survey areas. The highway was first surveyed in the 1850s, was paralleled by a railroad line in 1893, and was officially designated Route 66 in 1926. It was completely paved as one continuous segment by 1932, and was a major migration route into California during and after the depression. Portions of the route in San Bernardino County have been superseded by Interstates 10 and 40; the portion that crosses this survey area is Hesperia Road.
Hesperia	CA-SBR-3033/H	Known as the Mojave Trail, Mojave Road, Mormon Road, and Old Government Road, registered as California Historical Landmark 963. Trail connected Indian settlements on the Colorado River to those in the western Mojave Desert, was traveled by many famous explorers through the region. Route was surveyed by Lt. Whipple for the Pacific Railroad Survey in 1853-1854, but remained an improved wagon road until the 1880s, when the Southern Pacific Railroad was put in about 15-20 miles south.
Hesperia	CA-SBR-6793H	Historical and current route of the Atchison, Topeka & Santa Fe (Burlington Northern Santa Fe) Railroad, constructed in 1885. Previously recorded segments are in the Mojave Narrows and Cajon Pass areas.
Hesperia	CA-SBR-7061H	Bear Valley cutoff road from the I-15 Cajon Pass area to settlements in the Big Bear area; current survey route follows Bear Valley Road.
Los Angeles County		
Agua Dulce	CA-LAN-623	Site recorded on basis of informant's account and personal artifact collection (steatite bowls, metates, cores, manos, pestles). Has been largely destroyed by plowing, road cut examination revealed that site still exists.
Agua Dulce	CA-LAN-630	Two loci on ridge top with chert and felsite tools and debitage. Site largely destroyed by modern construction, traces remain on undeveloped slopes.
Lovejoy Buttes	CA-LAN-2677H (CHL 933)	Archaeological remains of Llano del Rio Socialist Colony, utopian community founded by Job Harriman. Core residential area is between 165th St. East and 175th St. East on both sides of SR 138. Only portions of this extensive site have been recorded; several structures within CalTrans ROW for SR 138 excavated by Van Bueren and Hupp (2000). Aerial photos reveal housing pads, building ruins, buried cisterns, water delivery system, two lime kilns.
Mint Canyon	CA-LAN-633	Milling area with metates and pestles.
Oat Mountain	CA-LAN-2149H	Part of original Big Creek 150kV transmission line built in 1913 by Henry Huntington's Pacific Light & Power Co. Set record for voltage and distance (241 mi.), required development of new insulators and transformers. Up-graded to 220kV in 1922-1923. Stockbridge Vibration Dampers invented and installed in 1930 still extant on the lines.
Oat Mountain	CA-LAN-2148T	Prehistoric trail through San Fernando Pass connecting Los Angeles with points north. Used in 1779 by Portola party to secure California for Spain, thereafter by Indians and Franciscans and incorporated into El Camino Real, road linking the 21 Spanish missions in California. Many later historical uses.
Oat Mountain, San Fernando	CA-LAN-2105H	Los Angeles Aqueduct. First phase of construction (1908-1913) brought water from the Owens River over 215 miles to the San Fernando Valley, second phase (1926) extended the aqueduct north to Bishop, final phase (1940) tapped the waters of the Mono Lake Basin.
Palmdale	19-150148	On map, but has no record ("15" in primary number indicates that it's a historical site, structure, or landmark). Does not appear to be listed in the Historic Property Index file.
Palmdale	CA-LAN-1534H	The Palmdale ditch, constructed to provide water to local agricultural fields from Littlerock Dam to Lake Palmdale. Portions of the ditch were concrete-lined in 1919, and it is still in use.
Palmdale	CA-LAN-1610H	Adobe house, cement foundations, fences, cistern, pump mount, pump-house wall, wooden floor scaffolding, holding pond, and historical artifact scatter (artifacts dating to 1940). May be depicted on 1922 Soil Survey Map. Former residence of the Reverend Sinner and his family.
San Fernando	CA-LAN-2132H	Part of first electric generation/transmission system for L.A., developed as part of L.A. Aqueduct Act of 1901, after aqueduct was built in 1911.
San Fernando	CA-LAN-2681/H	Part of historical Indian village with prehistoric component associated with San Fernando Mission Wells in San Fernando. Existing urban infrastructure obscures site deposits, which Knight (1998) reports are probably four feet below the surface.

Table 4.6-2 Current Status of Previously Recorded Sites in the EPGN ROW

Trinomial (CA-)	Ownership	Status	Comments
RIV-872T	BLM/Private	Destroyed in ROW (Midland Road and AAP)	Heavy OHV use of area; no trail visible from project ROW.
RIV-1113H	Private	Previous recording updated; site destroyed in ROW (AAP)	Site boundaries greatly expanded to include former RIV-3628H
RIV-1498H	BLM/Private	Previous recording updated; site has been bulldozed	Current site condition completely documented 1999
RIV-3604	BLM/Private	Destroyed (AAP)	Site previously collected; no artifacts found at site location by SWCA 2000
RIV-3628H	Private	RIV-1113 boundaries expanded to include area	RIV-3628H previously mitigated (AAP)
SBR-2910H	Municipal	Not updated; site has been recently upgraded to four-lane highway with central turn-lane	Site has lost all historic setting and feeling
SBR-3033H	Municipal	No physical evidence for site in ROW (within channel of Mohave River)	
SBR-3435	BLM/CalTrans	Destroyed (waterline construction)	Previously collected?
SBR-4179H	CalTrans	No physical evidence for site in ROW (recent urban sprawl/ development)	
SBR-4269H	Municipal	No physical evidence for site in ROW (segment in Oro Grande Wash)	
SBR-4272H	CalTrans	No physical evidence for site in ROW (recent urban sprawl/development)	
SBR-4411H	CalTrans	No physical evidence for site in ROW (recent urban sprawl/development)	
SBR-6793H	Municipal	Previous recording updated	
SBR-7061H	Municipal	Not updated; site has been recently upgraded to four-lane highway with central turn-lane	Site has lost all historic setting and feeling
SBR-7694H	CalTrans	NRHP-Eligible power transmission lines; no change to previous recording	
SBR-7994H	CalTrans	Destroyed (recently constructed convenience store)	
SBR-9853H	San Bernar-dino County	No change to previous recording	
PSBR-38H	CalTrans	No change to previous recording	
PSBR-39H	CalTrans	No change to previous recording	
LAN-623	BLM/Los Angeles Co.	Vegetation obscures site location; previous recording identified intact cultural deposits in road cut within ROW	Site may be intact within ROW
LAN-630	BLM/Los Angeles Co.	Previous recording identified intact portions of site; site destroyed within ROW (Davenport Road road cut)	
LAN-633	BLM/Los Angeles Co.	Site completely re-recorded	
LAN-1534H	BLM/CalTrans	No change to previous recording	Pearblossom Highway built over the site
LAN-1610H	BLM/CalTrans	Site not observed within the 50-foot surveyed ROW	
LAN-2105H	Municipal	No change to previous recording	Site passes beneath project ROW in tunnel
LAN-2132H	Municipal	No change to previous recording	
LAN-2148T	Municipal	Destroyed within ROW (Sierra Highway)	
LAN-2149H	Municipal	No change to previous recording	
LAN-2677H	BLM/CalTrans	No change to previous recording	
LAN-2681H	Municipal	No pedestrian survey of site area; no change to previous recording	Monitor site; buried cultural deposits found during recent construction of METROLINK Station
19-150148	BLM/CalTrans	Destroyed by recent construction	

Cultural Resources Findings

SWCA recorded 49 archaeological sites, 67 historical buildings, 307 Small Tract Act homesteads, and 87 isolated occurrences of cultural materials during comprehensive survey of the proposed project ROW (Table 4.6-3) and evaluated their potential eligibility for listing on the California Register of Historical Resources (CRHR) and the NRHP. The findings represent a cross-section of Southern California prehistory and history, but are dominated by historical and recent remains from 1940 to the present, reflecting the primary period of human usage in this region. The following section presents these cultural resource findings grouped by categories, each of which represents an interpretation of the identification and recording criteria in Instructions for Recording Historical Resources (OHP 1995) under the specific conditions of this project, as discussed below.

Table 4.6-3 - Cultural Resources Recorded during the System Survey, California Segment

Cultural Resources Context	Field Site Number	Total
Archaeological Sites in ROW	1, 2, 4, 5, 6, 7, 8, 9, 12, 15, 17, 18, 23, 25, 26, 27, 28, 29, 30, 31, 35, 37, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55, 57, 60, 66, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 100	49
Buildings	1-67	67
Small Tract Act Homesteads	1-307	307
Isolated Occurrences	1-87	87

Identification and Recording Methodology

SWCA encountered four main classes of cultural resources along the proposed project route and the alternative routes; these resources related to the 50-foot-wide ROW in different ways. All cultural resources identified as archaeological sites (abandoned locations of purposeful past human activity beyond casual or accidental deposition) for which any part of the site was within 50 feet of the edge of highway pavement or bladed road edge were completely recorded on Primary, Archaeological Site, and Continuation forms. Linear Feature and BSO forms were completed as needed. Overview photographs in color slide and black-and-white print formats were taken of each site; each feature that could be viewed physically as an interpretable, visually distinct entity was also photo-documented.

Historical buildings were encountered throughout the proposed project area fronting the roads and highways along which the survey was conducted. Portions of some buildings fell within the 50-foot-wide survey transect, whereas in other instances, although the lot or property containing a historical building was within the survey transect, the building proper was beyond the 50-foot limit. Because the Plan of Development (POD) for this proposed project requires that construction avoid existing infrastructure, including standing buildings and structures, SWCA recorded these resources at a less rigorous level of documentation, using Primary and BSO forms. Only buildings that exhibited architectural evidence that they are more than 50 years old, that appear on USGS topographic quadrangle maps for which the aerial photographs are dated before 1950, or for which documentary evidence supplies a date before 1950 were recorded as historical buildings.

SWCA also encountered hundreds of small, generally insubstantial dwellings that are the remains of Small Tract Act homesteads. Most of these structures are located entirely outside the 50-foot ROW, except for driveways to the property that are contemporaneous with the buildings; some homesteads were found within the 50-foot survey transects. SWCA initially believed that these structures were historical in age, so those that fronted on the road or highway survey corridor were documented with photographs and

a table to record basic construction attributes; nearly all were basically similar. Subsequently, the review of the Small Tract Act and older versions of topographic quadrangle maps, other archival study, and discussions with local residents suggested that virtually all of this class of cultural resource were constructed in the 1950s and 1960s. To ensure consistency, small-tract homesteads were documented at this minimal level of recording.

Lastly, insubstantial, accidental, and casual deposits of cultural materials were recorded as isolated occurrences without reference to a specific number of artifacts. Isolated occurrences ranged from single temporally diagnostic artifacts to single-episode deposits of household refuse not associated with any nearby site or building. Isolated features without associated refuse were also documented as isolated occurrences. All isolates were described and plotted on topographic quadrangle maps; photographs were taken of a few isolates in support of the assignment to this category.

Analysis of Findings

Analysis of the resource categories reveals several strong patterns in cultural use of the southern California landscape traversed by this project. First, late Historic Period and recent Euroamerican remains were encountered to the near exclusion of prehistoric and Native American remains. Second, the geographic distribution of the cultural remains reflects access to an industrial economy, with a secondary pattern of cultural resources sited in proximity to crucial local resources such as water, arable land, or lithic raw materials. Third, the survey methodology and proposed project ROW were the predominant influences on the first two patterns. The proposed ROW and alternative routes are immediately adjacent to historical roads and highways located in or near the lowest elevations of desert basins that do not contain the remains of glacial and post-glacial freshwater lakes. Prehistoric sites in southern California are typically associated with the shores of old lakes, rivers, or other waterways or with mountain bajadas (Morratto 1984), and are seldom found in the hot, waterless, and resource-deficient environments preferred by modern highway engineers. Thus, few prehistoric sites were identified, and most historical and recent sites dated to the later half of the 20th century.

While the review of the culture history of southern California documents great time depth for historical occupations, most use was confined to the fertile coastal region, with little permanent occupation of the Colorado and Mojave Deserts attempted until relatively recently. As with adjacent regions of Nevada and Arizona that presently support vast cities and exploding populations, the advent of massive water reclamation projects and the invention of automobiles and air conditioning have only recently made appealing an area that was for centuries inhospitable desert. Although some settlements were established during the 19th century, they were insubstantial, and their remains have largely been obliterated by more recent occupations. Between the mid-19th century and 1940, these occupations were sparse, humble, and clustered around established settlements with wells or natural springs. After 1940, however, occupation of the Colorado and Mojave Desert regions increased exponentially, reflecting the even greater population growth along the coastal region in Los Angeles and its suburbs. New roads were built to link the growing communities, often along alignments different from those traversed historically by wagons, which partly explains why we found so few remains of the earlier historical occupations.

The most visible remains found, the Small Tract Act homesteads, likewise reflect the booming post-World War II economy that extended upper-class privileges such as second (albeit modest) homes to the middle class of Los Angeles through cheap land, cheap gasoline, and abundant leisure time. The frequency of Small Tract Act Homesteads found, and the ruined (43.1 percent) or demolished (15.3 percent) condition of most, serves to illustrate that current occupations of much of the region traversed by the proposed project are a retrenchment from peak occupations of 1940 through 1970. These occupations are entirely supported by goods and services from outside the local communities.

Archaeological Sites

Of the 512 cultural resources recorded in the ROW during the survey of the California segment, 49 were classified as archaeological sites. These resources are summarized in Table 4.6-4 below.

Historical Buildings

Sixty-four properties with historical buildings were recorded during the cultural resources survey of the California segment of the EPGN ROW (Table 4.6-5). Each property was given a consecutive field designation number (BL 1, BL 2, BL 3 . . .BL 64). Of the 64 properties, 59 consist of single buildings, and five are complexes of from two to five separate buildings. Resource numbers BL 21, BL 32, and BL 43 are each comprised of two buildings, BL 38 contains four buildings, and BL 63 includes five buildings. For resources identified as BLs 21, 32, and 43, the individual buildings were recorded separately, as 21a, 21b, 32a, 32b, 43a, and 43b. Therefore, the actual number of individual buildings on the recorded properties is 74 and the number of individual buildings recorded is 67.

None of the buildings would be impacted by the fiber-optic cable construction activities. The majority of the buildings recorded during the survey (approximately 59 percent) are currently occupied. Many buildings do not extend into the ROW but are connected to the ROW via associated features such as driveways, sidewalks, and fences. Many of the property owners refused to grant access to their property, and several of the unoccupied/abandoned buildings along the ROW could not be accessed due to fences or other barriers. Even so, every effort was made to collect enough information to sufficiently characterize the range of building types and styles along the project ROW and provide a preliminary assessment of eligibility to the CRHR and the NRHP.

Of the 74 buildings on the properties recorded during the survey, 33 are residential, 38 are commercial, and three are currently used for religious purposes. Construction dates of the buildings range from the 1900s to the 1970s. However, the majority (66 percent) of the buildings date to around World War II, when human occupation and settlement of the southern California desert environment began in earnest.

In terms of significance, nine of the 74 buildings examined during the survey are recommended as potentially eligible for the NRHP (BLs 22, 23, 31, 32a, 35, 39, 41, 43a, and 43b). Seven of these buildings qualify for the NRHP under Criterion A and D of 36 CFR 60.4, one qualifies under Criteria A only, and the remaining building qualifies under Criteria B.

Table 4.6-4 Locations and Descriptions of Archaeological Sites Recorded within the ROW

Site No.	Location	Quadrangle	Ownership/ Tract No.	Description
Field Site (FS) 1	T5N, R11W, Sec 14	*Littlerock*	BLM/CalTrans	1940s homestead; consists of structure foundations, refuse pits, two linear concrete pads, remains of lumber outbuilding, an orchard.
FS 2	T5N, R10W, Sec 24	*Littlerock*	BLM/CalTrans	Late historical refuse piles and two building features.
FS 4	T5N, R8W, Sec 21	*Mescal Creek*	BLM/CalTrans	Historical refuse scatter
FS 5	T5N, R8W, Sec 25	*Mescal Creek*	BLM/CalTrans	Historical homestead with concrete structure foundation, rock-and-mortar cistern, refuse pit.
FS 6	T5N, R7W, Sec 21	*Shadow Mountains SE*	BLM/CalTrans	Historical refuse scatter
FS 7	T5N, R6W, Sec 22	*Adelanto*	BLM/CalTrans	Late historical homestead with concrete building pads and associated features
FS 8	T5N, R6W, Sec 22	Adelanto	BLM/CalTrans	Late historical homestead with concrete building pads and associated features
FS 9	T5N, R5W, Sec 28	*Baldy Mesa*	CalTrans	Small historical refuse scatter along fenceline
FS 12	T4N, R3W, Sec 5	*Apple Valley S*outh	Municipal	Late historical homestead with house foundation, concrete pads, and refuse
FS 15	T4N, R2W, Sec 4	*Fifteenmile Valley*	BLM/CalTrans	Late historical standing adobe house
FS 17	T4N, R1W, Sec 8	*Lucerne Valley*	BLM/CalTrans	"Service outpost" site consisting of two concrete pads, a small stone-and-mortar structure, and dispersed refuse pile.
FS 18	T4N, R1W, Sec 11	*Lucerne Valley*	BLM/CalTrans	1920s gas station
FS 23	T3N, R5E, Sec 28, 33	*Landers*	BLM/CalTrans	Prehistoric lithic and ground stone scatter on both sides of ROW
FS 25	T1N, R12E, Sec 17	*Dale Lake*	BLM/County	1940s "trading post" site with foundation of original structure and associated outbuildings.
FS 26	T1N, R12E, Sec 23	*Dale Lake*	BLM/County	Historical refuse scatter
FS 27	T1S, R14E, Sec 5	*Clarks Pass*	BLM/CalTrans	Large prehistoric lithic scatter and quartz quarry site located on both sides of the ROW
FS 28	T1S, R18E, Sec 17	*East of Granite Pass*	BLM/CalTrans	Six concrete supports in rectangular formation (used by Patton/military? or for construction of Colorado River Aqueduct?)
FS 29	T1S, R20E, Sec 16	*Arica Mountains*	BLM/CalTrans	Six concrete supports in rectangular formation (used by Patton/military? or in construction of highway/aqueduct/railroad?)
FS 30	T1S, R20E, Sec 14, 15, 22, 23	*Rice*	BLM/CalTrans; County	Town of Rice
FS 31	T1S, R20E, Sec 34	*Rice*	County	Two large excavated pits with associated soil and historical refuse piles.
FS 35	T4S, R12E, Sec 4	*Inca*	BLM/Private	1920s gas station on west side of Rice-Midland Road.
FS 37	T6S, R23E, Sec 6	*Blythe NE*	BLM/Private	Two small historical refuse scatters north of Lovekin Road, and east of the Atchison, Topeka & Santa Fe RR tracks.
FS 40	T3S-4S, R21E, Sec 4	*Inca*	BLM/Private	Bulldozed remains of the abandoned settlement of Midland; includes two small structures, several fire rings, scattered historical refuse.
FS 41	T3S, R20E, Sec 11	*Styx*	BLM/Private	Remnants of four structures (1950s-1960s), likely to be the only remains of Desert Lands Homestead.
FS 42	T1N, R9E, Sec 35	*Twentynine Palms*	Municipal	Remains of historical residence and associated features
FS 43	T1N, R6E, Sec 24	*Joshua Tree North*	BLM/County	"The Brooks Homestead"; historical concrete foundation and associated refuse scatter.
FS 45	T1S, R19E, Sec 18	*Arica Mountains*	BLM/Private	Small historical refuse scatter associated with historical road to the northwest.

Table 4.6-4 Locations and Descriptions of Archaeological Sites Recorded within the ROW (continued)

Site No.	Location	Quadrangle	Ownership/ Tract No.	Description
FS 46	T4-5S, R21-22E, Sec 23, 24, 25; T5S, R23E, Sec 2, 3, 4, 5, 10, 11, 14, 15, 22, 23, 26, 31, 32, 33, 34; T3-4S, R21E, Sec 4, 5, 9, 10, 14, 15; T5S, R22E, Sec 9, 15, 16, 22, 23, 25, 26, 36; T2-3S, R20-21E, Sec 2, 3, 11, 12, 13, 27, 34	*Big Maria Mountains; Blythe NE; Inca; McCoy Wash; Styx*	BLM/Private; Private	Midland Road
FS 47	T2S, R20E, Sec 8	*Arica Mountains*	BLM/Private	Two-track road running from Midland-Rice Road to Priest's Well and the Arica Mountains. Pipeline/Milepost No. 264
FS 48	T2S, R20E, Sec 8	*Arica Mountains*	BLM/Private	Historical two-track road
FS 49	T1S, R20E, Sec 32	*Arica Mountains*	BLM/Private	Historical two-track road
FS 50	T1N, R9E, Sec 31	*Twentynine Palms*	Municipal	Commercial pad and brick wall along current property line.
FS 51	T1S,R16E, Sec 26; T1S, R18E, Sec 17	*Cadiz Valley SE*	BLM/CalTrans	Colorado River aqueduct
FS 53	T5N, R7W, Sec 12	*Shadow Mountains SE*	BLM/County	Two historical refuse scatters
FS 54	T6N, R7W, Sec 26	*Shadow Mountains SE*	BLM/County	Historical household-refuse scatter; only two bottle shards fall within ROW.
FS 55	T6N, R7W, Sec 15	*Shadow Mountains SE*	BLM/County	Remains of 1950s urban ranch; consists of house foundation and associated outbuildings/features.
FS 60	T5N, R12W, Sec 28	*Acton*	BLM/County	Abandoned bend in railroad.
FS 66	T , R , Sec 21	Ritter Ridge	BLM/County	Historical metal water storage container, stone-and-mortar water spigot, and other cement-and-mortar features (associated with Escondido Canyon Road?)
FS 67	T5N, R14W, Sec 25, 26, 32, 33; T5N, R14W, Sec 32 and 31	*Agua Dulce; Mint Canyon*	BLM/County	Four segments of Old Escondido Canyon stage road.
FS 68	T5N, R14W, Sec. 33	*Agua Dulce*	BLM/County	Prehistoric quarry site
FS 69	T5N, R14W, sec. 32	*Agua Dulce*	BLM/County	Prehistoric lithic resource procurement and primary reduction site
FS 71	T5N, R14W, sec. 29, 32	*Mint Canyon*	BLM/County	Prehistoric campsite
FS 72	T4N, R15W, Sec 11	*Mint Canyon*	BLM/County	Historical foundations, rock terraces, refuse scatter, and associated features near road cut.
FS 73	T3N, R16W, Sec 1	Oat Mountain	CalTrans	Concrete pad adjacent to abandoned segment of Sierra Highway
FS 74	T3N, R15W, Sec 6	*Mint Canyon*	CalTrans	Segment of old historical road, possibly original alignment for the Sierra Hwy
FS 75	T3N, R16W	*Oat Mountain*	Municipal	Entry gate to "Live Oak Manor"
FS 76	T3N, R16W	*Oat Mountain*	Municipal	Abandoned petroleum tank farm; consists of a series of terraces and cement pads.

Table 4.6-4 Locations and Descriptions of Archaeological Sites Recorded within the ROW (continued)

Site No.	Location	Quadrangle	Ownership/ Tract No.	Description
FS 77	T1S, R20E, Sec 14 (east end) T2N, R6E, Sec 25 (west end)	Rice, Arica Mountains, East of Granite Pass, Granite Pass, Cadiz Valley SE, Cadiz Valley SW, Clarks Pass, New Dale, Humbug Mountain, Twentynine Palms Mountain, Valley Mountain, Twentynine Palms, Sunfair, Joshua Tree North	CalTrans	California SR 62
FS 100	T7N, R23E, Sec 2; T6S, R23E, Sec 35, 36, 26, 27, 22, 23, 10, 11, 14, 15, 3, 4, and 5; T5S, R23E, Sec 32, 33, 34	*Blythe, Blythe NE*	Private	Palo Verde Irrigation District
FS 101	T5S, R23E, Sec 34; T6S, R23E, Sec 3	*Blythe NE*	Private	Abandoned or unused agricultural canal that terminates within the ROW.
FS 104	T6S, R23E, Sec 26 and 27	*Blythe NE*	Private	Dry concrete agricultural canal.
FS 105	T6S, R23E, Sec 22, 23, 26, 27	*Blythe NE*	Private	Earthen ditch running east-west; canal crossing.
FS 106	T6S, R23E, Sec 14 and 15	*Blythe NE*	Private	Unused/dry agricultural irrigation ditch.

Table 4.6-5. Locations and Descriptions of Standing Historical Buildings Recorded within the ROW

County	USGS Quad	Location	Address	Building Number	Description
Los Angeles	*Palmdale*	T5N, R2W, Sec 14	7193 Pearblossom Hwy	1	Ca. 1940s building with stucco exterior; newer components; associated shed; currently occupied and also with a room used for a bookkeeping business.
Los Angeles	*Littlerock*		7654 Pearblossom Hwy	2	Ca. 1940s building with new cinder block front; currently used as “All Star Realty.”
Los Angeles	*Littlerock*		7660 Pearblossom Hwy	3	Ca. 1940s building with board-and-batten walls and shed roof; currently used as “Mama’s Pizza.”
Los Angeles	*Littlerock*		7651 Pearblossom Hwy	4	Ca. 1940s L-shaped building with wood siding; currently used as “Laura’s Thrift Store.”
Los Angeles	*Littlerock*		7764 Pearblossom Hwy	5	Ca. 1940s building with front pillars; modern front facade and components; converted into shops.
Los Angeles	*Littlerock*		7730 Pearblossom Hwy	6	Ca. 1940s residence with modern components; currently unoccupied.
Los Angeles	*Littlerock*			7	Ca. 1940s residence with three connected buildings; modified front with “Unique Hydro Cool Stand”; small stone building in back.
Los Angeles	*Littlerock*		7800 Pearblossom Hwy	8	Ca. 1940s L-shaped house with wooden pillars on front; occupied.
Los Angeles	*Littlerock*		8055 Pearblossom Hwy	9	Ca. 1940s building that may have originally been a house, later converted into a small store with attached building.

Table 4.6-5. Locations and Descr. of Standing Historical Buildings Recorded within the ROW (cont.)

County	USGS Quad	Location	Address	Building Number	Description
Los Angeles	*Littlerock*			10	Ca. 1940s two-story house; modern components; perhaps associated with older gas station directly east; currently not occupied.
Los Angeles	*Littlerock*		Pearblossom Hwy	11	Ca. 1940s commercial building with veranda; new components; currently "Feed and Pet Supplies" with a small Mexican food shop attached to the east side.
Los Angeles	*Littlerock*		12318 Pearblossom Hwy	12	Ca. 1940s residential building with few modifications; currently used for "Christian Fellowship" (sign on wall).
Los Angeles	*Littlerock*		Pearblossom Hwy	13	Late 1940s residential building with gable roof and stucco walls; new components; currently vacant.
Los Angeles	*Littlerock*		1263 Pearblossom Hwy	14	Ca. 1940s residence with wood siding and side-gabled roof.
Los Angeles	*Littlerock*		Pearblossom Hwy	15	Ca. 1940s commercial building that currently houses "Billy Boy's Café."
Los Angeles	*Littlerock*		13031 Pearblossom Hwy.	16	Ca. 1914-1918? stone-and-mortar building with fireplace; extensively remodeled; now used as "Robertson's Realtor."
San Bernardino	*Lucerne Valley*		SR 18	17	Burned remains of a modern house constructed in location of a 1945 house plot.
San Bernardino	*Lucerne Valley*		SR 18	18	Remodeled World War II era cottage with tile roof and stone wall; currently occupied.
San Bernardino	*Lucerne Valley*		SR 18	19	Ca. 1940s commercial building with stuccoed exterior and front veranda; currently unoccupied.
San Bernardino	*Lucerne Valley*		31861 SR 18	20	Ca. 1940s house with modern aluminum siding; ornate hog-wire fencing; associated outbuildings; currently occupied.
San Bernardino	*Lucerne Valley*		31865 SR 18	21	Ca. 1940s-early 1950s house and motel; newer components; vandalized interiors; currently abandoned with occasional squatters.
San Bernardino	*Lucerne Valley*		32019 SR 18	22	Early 1930s stone house (well built) with three dormers; currently occupied.
San Bernardino	*Lucerne Valley*		32090 SR 18	23	Late 1930s Pueblo Revival ranch house; former dairy farm; new components; used in an opening scene for the television series High Chaparral (1967-1971); currently used for "Country Style Stores."
San Bernardino	*Lucerne Valley*		SR 18	24	Late 1940s dome-shaped building moved in from Edwards Air Force Base; formerly used as a boxing ring and dance hall; currently used as the (non-denominational)"Mana Mission" with small church and food-distribution room.
San Bernardino	*Lucerne Valley*		32193 SR 18	25	Ca. 1920s stone building originally used as a market with small café; building burned in the 1970s and was extensively remodeled; now used as "High Country Real Estate."
San Bernardino	*Lucerne Valley*		32112 SR 18	26	Ca. 1940s commercial building with new components; stucco walls and shed roof; large sheet-metal doors.
San Bernardino	*Twentynine Palms*		73245 Raymond Drive	28	Ca. 1940s house with new sheet-metal siding and other components; stone chimney and front pillars; fence with stone pillars; currently occupied.
San Bernardino	*Lucerne Valley*			27	Ca. 1940s commercial building with stucco walls, shed roof, and front veranda pad; new components; rebar on windows; currently abandoned.

Table 4.6-5. Locations and Descr. of Standing Historical Buildings Recorded within the ROW (cont.)

County	USGS Quad	Location	Address	Building Number	Description
San Bernardino	*Twentynine Palms*		73292 Raymond Drive	29	Ca. 1940s brick house; new addition on west end; one dormer on gable roof; occupied.
San Bernardino	*Twentynine Palms*		4488 Adobe Road	30	Ca. 1940s house and garage with large brick fireplace; exterior siding of composite shingles; tennis court in back; currently unoccupied, but was recently used for "Allegro Appliance Repair."
San Bernardino	*Twentynine Palms*		Amboy Road at junction of Amboy Road and Roundup Road to west	31	1930s three-bedroom house formerly owned by actor James Cagney, with large front veranda and garage; currently abandoned and boarded up; approximately 1000 feet from Amboy Road at the end of a large loop driveway; driveway with two stone pillars and a small shack is in the southern ROW.
San Bernardino	*El Mirage*	T6N, R7W, Sec 20		32	Late 1930s El Mirage Gas Station constructed of stuccoed concrete and lapped wood siding; associated ca. 1970s garage constructed of wood, stucco, and sheet metal.
Los Angeles	*Lovejoy Buttes*	T6N, R9W, Sec 26	18742 Palmdale Blvd	33	Ca. 1940s commercial building with wood siding and shed roof.
Los Angeles	*Lovejoy Buttes*	T6N, R9W, Sec 26	18726 Palmdale Blvd	34	Ca. 1945 small wood-frame building with stuccoed exterior.
Los Angeles	*Acton*	T5N, R13W, Sec 36	31823 Crown Valley Rd	35	Ca. 1910s Victorian-style residence with stuccoed exterior walls and sheet metal roof.
Los Angeles	*Acton*	T5N, R13W, Sec 36	32020 Soledad Canyon Rd	36	Ca. 1930s residential building of wood-frame construction, with covered porch.
Los Angeles	*Acton*	T5N, R13W, Sec 36	Crown Valley Rd	37	Ca. 1940s residential building with rolled asphalt shingles and asbestos composite siding.
Los Angeles	*Acton*	T5N, R13W, Sec 36	Crown Valley Rd	38	Four 1900-1930s buildings on one lot; one building is the Acton Chamber of Commerce, another is a veterinary clinic.
Los Angeles	*Acton*	T5N, R13W, Sec 36	32142 Crown Valley Rd	39	1924 Presbyterian Church with lapped wood siding on exterior.
Los Angeles	*Agua Dulce*	T5N, R14W, Sec 27	11320 Davenport Rd	40	Ca. 1930s-1940s residential building with lapped wood siding on exterior and hipped roof.
Los Angeles	*Oat Mountain*	T3N, R16W, Sec 24	22124 Sierra Hwy	41	Ca. 1920s-1930s Art Moderne gas station with stuccoed exterior.
Los Angeles	*Agua Dulce*	T5N, R14W, Sec 26	10427 Escondido Canyon Dr	42	Ca. 1930s-1940s residential building of frame construction, composite tile exterior, corrugated tin roof.
Los Angeles	*Mint Canyon*	T4N, R15W, Sec 1	15564 Sierra Hwy	43	1931 "Halfway House Café" and associated gas station; café building still in use, gas station is abandoned but maintained.
Los Angeles	*Agua Dulce*	T5N, R14W, Sec 27	11333 Davenport Rd	44	Ca. 1930s-1940s residential building with lapped wood siding and asphalt shingles.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 33	Twentynine Palms Hwy	45	Ca. 1945 store constructed of cinder block and stucco, with flat roof; originally two buildings that were later joined; currently used as thrift store.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 33	73893 Twentynine Palms Hwy	46	Ca. 1945 cinder block and stucco building with flat roof and awning; integrity compromised by new doors and windows; currently "Sparkle Plenty Cleaners and Laundry."
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 33	73887 Twentynine Palms Hwy	47	Ca. 1945 cinder-block building with flat roof and small (2-ft) awning; currently "Char's Casa DiBello Full Service Salon."

Table 4.6-5. Locations and Descr. of Standing Historical Buildings Recorded within the ROW (cont.)

County	USGS Quad	Location	Address	Building Number	Description
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 33	73749 Twentynine Palms Hwy	48	1930 cinder block and stucco building; originally a liquor store with recessed windows and asphalt shingled gable roof; currently "The Attic" clothing store.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73643 Twentynine Palms Hwy	49	Ca. 1945 flat-roofed stucco building with double doors.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73639Twentynine Palms Hwy	50	Ca. 1945 small stucco building adjoining BL 49 and abutting BL 51; has flat roof; currently a CD store and "Magic Dragon Tattoo."
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73633 Twentynine Palms Hwy	51	Late 1940s-1950s brick and stucco building with wooden gable roof, wooden timber awning in front, painted wood pillars on either side of front door.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73617 Twentynine Palms Hwy	52	Ca. 1945 cinder block building with shed-type roof and stuccoed front.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73567 Twentynine Palms Hwy	53	Ca. 1945 cinder block building with flat roof and brick facade that surrounds two glass doors and large windows.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73563 Twentynine Palms Hwy	54	Ca. 1940s stucco building that adjoins BL 53 on the east and BL 55 on the west; currently a tattoo parlor and jujitsu school.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	73551 Twentynine Palms Hwy	55	Ca. 1940s stucco building with flat roof, three garage doors, awning over main entrance; abuts BL 54.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 29	73554 Twentynine Palms Hwy	56	Ca. 1940s stucco building with flat roof, large windows, recessed entrance; originally the town drugstore; currently used as a coffee shop.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 29	Twentynine Palms Hwy	57	Late 1930s-early 1940s stucco building with flat roof and terra cotta awning; originally town market; currently a warehouse for modern market.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 32	Twentynine Palms Hwy	58	Ca. 1930s stucco building with central tower and terra cotta tile roof; originally a drugstore; currently used as a restaurant.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 31	72439 Twentynine Palms Hwy	59	Ca. 1930s-1940s stuccoed cinder-block building with front veranda and two-story addition on backside; currently abandoned.
San Bernardino	*Sunfair*	T1N, R8E, Sec 28	69622 Twentynine Palms Hwy	60	Ca. 1940s frame building with gabled roof, wooden shingles, cinder-block chimney; originally a residence; currently abandoned.
San Bernardino	*Sunfair*	T1N, R7E, Sec 26	Twentynine Palms Hwy	61	Late 1940s stuccoed building with gabled roof, brick chimney, cinder-block fence, patio; originally a residence; currently abandoned.
San Bernardino	*Joshua Tree North*	T1N, R7E, Sec 28	Twentynine Palms Hwy	62	Ca. 1940s stuccoed building with hipped roof; original windows replaced with aluminum windows; originally a residence; currently abandoned.
San Bernardino	*Twentynine Palms*	T1N, R9E, Sec 18	4190 Mesquite Springs	63	Five buildings: 1930s stucco house with hand prints and dates in concrete foundation ranging from 1948 to 1960; modern stucco well-water pump house; small stucco shed; 2-car garage with stucco add-on room; decomposing remains of an unusual sand-walled building; all currently abandoned/for sale.
San Bernardino	*Fifteenmile Valley*	T4N, R2W, Sec 6	SW corner of SR 18 and Laguna Seca Rd	64	Ca. 1940s-early 1950s gas station with barn-like service building, cement gas-pump islands, remains of (hydraulic?) mechanic's car lift.

Buildings Associated with the Small Tract Act

SWCA has recorded 307 buildings associated with the Small Tract Act (designated "Small Tracts" or STs) within the survey corridor. In general, they are small, expediently constructed, one- or two-room houses that were built and occupied to satisfy legal regulations for acquiring ownership of a "small tract" or plot of land. The majority of the STs are concentrated in six main areas along the survey route. All STs within the survey ROW were recorded.

Most of the STs are in an area beginning approximately 16 miles east of Twentynine Palms and extending west to Lucerne Valley, but a few were noted as far west as the outskirts of Pearblossom. Six main concentrations are observed along the survey route. The first is a series of 63 STs (STs 1-63) approximately 10 miles northeast of the town of Twentynine Palms. They line the route along Amboy Road from south of Ironage Road to just east of Henry Road (a distance of approximately 4 miles). Two miles south of and parallel to Amboy Road is SR 62, where a series of 116 STs (STs 187-302) form a second concentration. This concentration lines both sides of the highway east of Twentynine Palms, beginning approximately 3.5 miles outside of town and extending for a distance of a little over 13 miles. Northwest of Twentynine Palms is another dense concentration of 64 STs (STs 76-139), along approximately 10 miles of desert roads following the survey route north and east of Copper Mountain. STs 140-147 form the fourth concentration, located within a 1.5-mile stretch along Winters Road. A fifth concentration contains nine STs (STs 150-158) along less than 1 mile of Reche Road in an area called Homestead Valley, between just east of Goat Mountain Road and Belfield Boulevard. The last concentration contains 12 STs (STs 161-172) within less than 2 miles along Linn Road between Sage Avenue and Ernestine Road. The rest of the 307 STs recorded are more isolated or have been surrounded by larger houses or businesses.

These buildings are simple in construction and void of meaningful architectural detail with dimensions characteristic of small tract houses constructed in the 1950's and 1960's. Of the 307 buildings, 85 percent remain standing. Approximately 41 percent of these buildings are or may have been occupied at one time. They are covered with shed or gable roofs, sided with composition (asphalt shingles, asbestos shingles, or fiberglass). Many of the windows wood sash, aluminum or metal windows are covered with plywood. Numerous (35 percent) of the buildings identified have been vandalized.

Isolated Occurrences

Discussion

Eighty-seven isolated occurrences (IOs) were identified and recorded within the ROW during the survey. Of these, 85 percent (n=74) were historical scatters or isolated historical artifacts, and isolated prehistoric artifacts comprised the other 15 percent (n=13). IOs were briefly recorded and then plotted on USGS 7.5' quadrangles.

Eligibility to the California Register of Historical Resources and the National Register of Historic Places

During survey across California for the EPGN, SWCA recorded four classes of cultural resources—archaeological sites, historical buildings, Small Tract Homesteads, and isolated occurrences—and evaluated each resource for potential eligibility to the CRHR and the NRHP. Table 4.6-6 lists all the cultural resources recorded, re-recorded, evaluated, or encountered by SWCA in the El Paso to Los Angeles Fiber Optic Cable ROW (78 new and previously recorded sites; 74 historical buildings, 67 of

them recorded individually, on 64 properties; 307 STs; 87 IOs) by the recommended category of eligibility. The evaluations are presented below by cultural resource class, following a discussion of the eligibility criteria.

Eligibility Evaluation Criteria

The criteria used for assessing cultural resources includes the requirements set forth under Section 15064.5 of the California Environmental Quality Act (CEQA); and the significance criteria regarding resource eligibility to the CRHR. The CEQA eligibility criteria are similar to that of the NRHP in that a resource shall be considered historically significant if it meets any of the four criteria for listing on the CRHR (Public Resource Code § 5024.1, Title 14 CCR, Section 4852). These criteria include (a) association with events that have made a significant contribution to the broad patterns of California history and cultural heritage; (b) association with the lives of people important to the past; (c) embodies distinctive characteristics of a type, region, period, or construction method or represents the work of an important artist or possesses high artistic value; or (d) has yielded, or is likely to yield information important in prehistory or history.

The criteria of eligibility for listing properties on the NRHP provide a means for evaluating whether cultural resources merit protection from the impacts of the proposed undertaking. The quality of significance of archaeological sites and buildings in relation to American history, architecture, archaeology, and culture can be evaluated through their integrity of location, design, setting, materials, workmanship, feeling, and association, and by at least one of four specific criteria: (a) association with events that have made a significant contribution to the broad patterns of our history; (b) association with the lives of persons significant in our past; (c) embodiment of the distinctive characteristics of a type, period, or method of construction, or representing the work of a master, or possessing high artistic values, or representing a significant and distinguishable entity whose components may lack individual distinction; or (d) having yielded, or having the likelihood to yield, information important in prehistory or history (36 CFR 60.4). These criteria are modified by several additional considerations (36 CFR 60.4) most important of which is the requirement that significant resources must be at least 50 years old unless they are of exceptional importance.

Table 4.6-6. Recommended Eligibility to the NRHP of Cultural Resources in the Project ROW

RESOURCE CLASS	ELIGIBLE	NOT ELIGIBLE
Archaeological Sites*	FS 15, 18, 23, 27, 30, 44, 51, 68, 69, 71, 75, 100; RIV-1113H; SBR-2910H, 3033H, 4179H, 4269H, 4272H, 4411H, 6793H, 7694H, 9853H; PSBR-38H, 39H; LAN-623, 630, 633, 1534H, 1610H, 2105H, 2132H, 2148T, 2149H, 2677H, 2681H	FS 1, 2, 4, 5, 6, 7, 8, 9, 12, 17, 25, 26, 28, 29, 31, 35, 37, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 53, 54, 55, 60, 66, 67, 72, 73, 74, 76, 77; RIV-872T, 1498H, 3604; SBR-3435, 7061H, 7994H; 19-150148
Historical Buildings	BL 22, 23, 31, 32a, 35, 39, 41, 43a, 43b	BL 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21a, 21b, 24, 25, 26, 27, 28, 29, 30, 32b, 33, 34, 36, 37, 38, 40, 42, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64
Small Tract Homesteads	-	ST 1-307
Isolated Occurrences	-	IO 1-87
TOTAL	**43**	**497**

*Field Site (FS) numbers 3, 11, 10, 13, 14, 16, 19-22, 24, 32-34, 36, 38, 39, 44, 52, 56, 57, 58, 59, 61-65, 70, and 78-99 were not assigned to sites within the ROW.

Evaluation of Project Cultural Resources by Resource Class

Archaeological Sites

SWCA recorded 49 archaeological sites not previously recorded (newly recorded by SWCA) and 29 sites that had been previously recorded (Table 4.6-7) and are within the site record databases of the archaeological clearinghouses with jurisdiction over the proposed project area. Of these, eligibility determinations had previously been made for six sites, although these determinations may have been made on only one portion of a small section of a larger site. SWCA evaluated the condition and integrity of each of these sites based on the previous site recording, and evaluated the contribution to the integrity of the site within the proposed project survey corridor of 50 feet on each side of the ROW that is to be utilized for the fiber-optic cable. The actual Area of Potential Effect (APE) is 25 feet wide on only one side of the ROW.

SWCA recommends that 45 sites are not eligible for listing on the CRHR or the NRHP: 3 (FS 8, 55, 66) because they are not at least 50 years of age; 35 (FS 1, 2, 4, 5, 6, 7, 9, 12, 17, 25, 26, 28, 29, 31, 35, 37, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 53, 54, 60, 67, 72, 73, 74, 76, and 77) because they are not significant in association with Criteria A-D; and 8 (RIV-872T, RIV-1498H, RIV-3604, SBR-3435, SBR-7061H, SBR-7994H, 19-150148) because they lack integrity (Table 4.6-8). SWCA recommends that 34 sites are eligible for listing to the CRHR and to the NRHP, based on surface evidence and/or archival records that substantiate that these sites are older than 50 years, are significant in their associations with Criteria A-D, and retain the integrity of that association (Table 4.6-8); six sites have previously been determined to be eligible to the NRHP.

Historical Buildings

SWCA recorded 67 standing historical buildings that are within the project survey corridor and evaluated them for eligibility for listing on the CRHR and NRHP (Table 4.6-8). In terms of significance, nine of the 67 buildings (on 64 properties) examined during the survey are recommended as eligible for the NRHP (Table 4.6-9). Five of these buildings (BL 35, 39, 41, 43a, 43b) qualify for the NRHP under Criteria A and C of 36 CFR 60.4, one (BL 32a) qualifies under Criterion A only, one (BL 31) qualifies under Criterion B for association with actor James Cagney, and the remaining two (BL 22 and BL 23) qualify under Criterion C only. None of the other 58 buildings (BL 1-20, 21a, 21b, 24-30, 32b, 33, 34, 36-38, 40, 42, or 44-64 are considered significant under Criteria A-D.

Table 4.6-7 Original and Current Eligibility Recommendations for Previously Recorded Sites in the Project ROW

SITE NUMBER	PREVIOUS DETERMINATION	CURRENT RECOMMENDATION
RIV-872T	Recommended not eligible; no determination made	SWCA concurs with the original recommendation
RIV-1113H	Not evaluated	Site within the project APE is not contributing; recommended as eligible under Criterion D; site boundary expanded to include RIV-3628H
RIV-1498H	Not evaluated	Site is recommended as not eligible
RIV-3604	Not evaluated	Site was completely collected by previous recorders; no physical evidence for site; site is recommended as not eligible
SBR-2910H	Determined eligible (1993)	Segment that crosses the project APE (Hesperia Road) is not contributing due to loss of setting and feeling
SBR-3033H	Not evaluated	Site is recommended as eligible as previously recorded; no physical evidence for the site where it crosses the project APE; this segment does not contribute to site eligibility
SBR-3435	Not evaluated	Site has been destroyed by recent construction; site is recommended as not eligible
SBR-4179H	Not evaluated	Site is recommended as eligible as previously recorded; no physical evidence for the site where it crosses the project APE; this segment does not contribute to site eligibility
SBR-4269H	Not evaluated	No physical evidence within the APE; this segment does not contribute to site eligibility
SBR-4272H	Not evaluated, but a California Historic Landmark	No physical evidence within the APE; this segment does not contribute to site eligibility
SBR-4411H	Not evaluated, but a California Historic Landmark (#577)	No physical evidence within the APE; this segment does not contribute to site eligibility
SBR-6793H	Determined eligible (1998)	Segment within the project APE was documented and contributes to site eligibility
SBR-7061H	Not evaluated	SWCA recommends that the site is not eligible
SBR-7694H	Determined eligible (1994)	No change to determination
SBR-7994H	Not evaluated	Site has been destroyed by recent construction; site is recommended as not eligible
SBR-9853H	No information available	Previously recommended as eligible under Criteria A, C, and D; SWCA concurs with previous recommendation
PSBR-38H	Determined eligible (1993)	No change to eligibility
PSBR-39H	Determined eligible (1993/94)	No change to eligibility
LAN-623	Not evaluated	Previous re-evaluation found intact, buried deposits in road cut; SWCA recommends the site as eligible based on previous description
LAN-630	Not evaluated	Previous recording suggested intact portions of site remain outside of the Davenport Road cut; SWCA recommends the site as eligible based on previous description
LAN-633	Not evaluated	SWCA re-recorded the site; recommended as eligible
LAN-1534H	Determined eligible (1992)	No change to eligibility
LAN-1610H	Not evaluated	Blading across site has exposed buried historical deposit; SWCA recommends the site as eligible under Criterion D
LAN-2105H	Not evaluated; site passes below the project area in a tunnel	Previous recording recommended eligibility; SWCA concurs with previous recommendation
LAN-2132H	Not evaluated	Previous recording recommended eligibility; SWCA concurs with previous recommendation
LAN-2148T	Not evaluated	Previous recording recommended eligibility; site within right-of-way has been destroyed and does not contribute to eligibility
LAN-2149H	Not evaluated	Previous recording recommended eligibility, SWCA concurs with previous recommendation
LAN-2677H	Not evaluated	Previous recording recommended eligibility; SWCA concurs with previous recommendation
LAN-2681H	Not evaluated	Site is represented by a buried deposit; SWCA recommends the site as eligible under Criterion D
19-150148	Not evaluated	Site has been destroyed by recent construction; site is recommended as not eligible

Table 4.6-8. Eligibility of Sites in the EPGN ROW to the National Register of Historic Places

SITE NUMBER			CRITERION				INTEGRITY							SITE ELIGIBILITY	
FIELD	TRINOMIAL	50 YEARS OLD	A	B	C	D	LOCATION	DESIGN	SETTING	MATERIALS	WORKMANSHIP	FEELING	ASSOCIATION	PRIMARY COMPONENTS ELIGIBILITY	NON-CONTRIBUTING COMPONENTS
1													?	NOT ELIGIBLE	-
2													?	NOT ELIGIBLE	-
4														NOT ELIGIBLE	-
5													?	NOT ELIGIBLE	-
6														NOT ELIGIBLE	-
7													?	NOT ELIGIBLE	-
8		?											?	NOT ELIGIBLE	-
9														NOT ELIGIBLE	roadside trash
12										?				NOT ELIGIBLE	-
15													?	ELIGIBLE	graffiti, modern trash
17													?	NOT ELIGIBLE	-
18													?	ELIGIBLE	modern trash
23											?			ELIGIBLE	west side of SR 247
25														NOT ELIGIBLE	-
26													?	NOT ELIGIBLE	-
27														ELIGIBLE	-
28		?											?	NOT ELIGIBLE	-
29		?											?	NOT ELIGIBLE	-
30														ELIGIBLE	modern cemetery
31													?	NOT ELIGIBLE	-
35														NOT ELIGIBLE	-
37														NOT ELIGIBLE	-
40													?	NOT ELIGIBLE	AAP ROW
41													?	NOT ELIGIBLE	-
42								P			P			NOT ELIGIBLE	-
43													?	NOT ELIGIBLE	-
45													?	NOT ELIGIBLE	AAP ROW
46														NOT ELIGIBLE	-
47		?												NOT ELIGIBLE	AAP ROW
48		?												NOT ELIGIBLE	AAP ROW
49		?												NOT ELIGIBLE	AAP ROW
50		?											?	NOT ELIGIBLE	roadside trash
51														ELIGIBLE	-
53														NOT ELIGIBLE	-
54														NOT ELIGIBLE	-
55													P	NOT ELIGIBLE	-
60														NOT ELIGIBLE	-
66														NOT ELIGIBLE	-
67														NOT ELIGIBLE	-
68														ELIGIBLE	Davenport Road cut
69														ELIGIBLE	Davenport Road cut
71														ELIGIBLE	site west of road cut
72														NOT ELIGIBLE	-
73														NOT ELIGIBLE	-
74														NOT ELIGIBLE	-
75				P								?	?	ELIGIBLE	house foundation, oil wells
76														NOT ELIGIBLE	-
77														NOT ELIGIBLE	-
100														ELIGIBLE	-
-	RIV-872T													NOT ELIGIBLE	
-	RIV-1113H												?	ELIGIBLE	AAP ROW through site/former RIV-3628H
-	RIV-1498H													NOT ELIGIBLE	-
-	RIV-3604													NOT ELIGIBLE	-
-	SBR-2910											?		ELIGIBLE	portion along Hesperia Rd.-
-	SBR-3033H													ELIGIBLE	within Mohave River channel through Hesperia
-	SBR-3435													NOT ELIGIBLE	-
-	SBR-4179H				P									ELIGIBLE	within project ROW
-	SBR-4269H													NOT ELIGIBLE	-
-	SBR-4272H													NOT ELIGIBLE	-

SITE NUMBER		50 YEARS OLD	CRITERION				INTEGRITY							SITE ELIGIBILITY	
FIELD	TRINOMIAL		A	B	C	D	LOCATION	DESIGN	SETTING	MATERIALS	WORKMANSHIP	FEELING	ASSOCIATION	PRIMARY COMPONENTS ELIGIBILITY	NON-CONTRIBUTING COMPONENTS
-	SBR-4411H													ELIGIBLE	within project ROW
-	SBR-6793H									?				ELIGIBLE	-
-	SBR-7061H													NOT ELIGIBLE	-
-	SBR-7694H													ELIGIBLE	boulder line 2 (partial); boulder line 3
-	SBR-7994H													NOT ELIGIBLE	-
-	SBR-9853H													ELIGIBLE	Trestle E
-	PSBR-38H													ELIGIBLE	-
-	PSBR-39H													ELIGIBLE	-
-	LAN-623													ELIGIBLE	-
-	LAN-630													ELIGIBLE	Davenport Road cut; private house lots
-	LAN-633													ELIGIBLE	-
-	LAN-1534													ELIGIBLE	-
-	LAN-1610H													ELIGIBLE	recent trash dumps
-	LAN-2105								P					ELIGIBLE	-
-	LAN-2132													ELIGIBLE	-
-	LAN-2148T													ELIGIBLE	Sierra Highway ROW
-	LAN-2149H								P					ELIGIBLE	-
-	LAN-2677H													ELIGIBLE	-
-	LAN-2681/H													ELIGIBLE	recent concrete drainage channel
-	19-150148													NOT ELIGIBLE	-

NOTES: Field site numbers 3, 10, 11, 13, 14, 16, 19-22, 24, 32-34, 36, 38, 39, 44, 52, 56, 57, 58, 59, 61-65, 70, and 78-99 were not assigned to sites in the ROW. Shading indicates eligibility or integrity in accordance with indicated category.
Y = YES; N = NO; P = POTENTIALLY; AAP=ALL AMERICAN PIPELINE

Table 4.6-9 Historical Buildings Recommended as Eligible to the National Register of Historic Places

BUILDING	ARCHITECTURAL STYLE	EVENT/ASSOCIATION	CRITERION OF SIGNIFICANCE
BL 22	Bungalow		C
BL 23	Pueblo Revival		C
BL 31	-	Actor James Cagney's home	B
BL 32a	-	Development of automobile culture, El Mirage	A
BL 35	Folk/Vernacular (Victorian influences)	Small-town residential development, 1910s-1920s	A, C
BL 39	Folk/Vernacular	Religious life in small-town rural America	A, C
BL 41	Art Moderne	Development of automobile culture, San Fernando	A, C
BL 43a	Folk/Vernacular (false-front commercial details)	Development of automobile culture, Saugus	A, C
BL 43b	Folk/Vernacular (Art Deco/pseudo-Moorish influence)	Development of automobile culture, Saugus	A, C

Small Tract Homesteads

Small Tract Act homesteads were initially recorded because they appeared to be more than 50 years old, based on the construction techniques visible on the first examples encountered. Subsequently, SWCA determined that all of the 307 homesteads were constructed in the 1950s and 1960s. SWCA recommends that none of these properties possesses the qualities required for eligibility to be listed on the CRHR or the NRHP, and none appears to have been constructed more than 50 years ago. Although 36 CFR 60.4(g) permits "a property achieving significance within the past 50 years if it is of exceptional importance" to be considered eligible for the NRHP, the homesteads identified in the survey corridor are not significant under Criteria A-D, much less of exceptional importance, and are thus not eligible. The promulgation and eventual withdrawal of the Small Tract Homestead Act is an event, but not one that is of exceptional importance in history, and the context of the recent development of the high-desert towns of the California Mojave Desert has been reviewed in the setting portion of this section. Furthermore, many of the buildings have been neglected, salvaged, vandalized, or demolished; thus, the homesteads are not eligible under Criterion A. As this context also revealed, they are not associated with a person of fame in history, nor do they exhibit characteristics of style or engineering of significance; thus, the small tract homesteads are not eligible for listing under Criteria B or C. SWCA examined several homesteads to determine if they possess archaeological value. Most have few, if any, remaining materials associated with their occupation, and many do not have any subterranean features such as privies, trash pits, or other deposits for associated trash.

SWCA did record, in tabular form, the condition and design of a large sample of the thousands of small tract homesteads in the Mojave Desert; this documentation has exhausted all of the archaeological data still extant on these sites. As no additional data can be collected from the homesteads recorded by SWCA and the data have not made a significant contribution to history or archaeology, the homesteads are not eligible for listing on the CRHR or the NRHP under Criterion D.

Isolated Occurrences

Isolated occurrences are generally considered not eligible for listing on the National or California Registers as a class of cultural resources, unless the occurrence is an object that represents exceptional workmanship or association. SWCA did not identify any objects of exceptional workmanship or association among the 87 isolated artifacts, artifact scatters, and isolated features recorded as isolated occurrences; therefore, none of the recorded isolated occurrences are recommended as eligible for listing on the NRHP or CRHR.

OFF-ROW

This section documents the results of the cultural resources survey of the locations for the proposed regeneration/OP-AMP station sites along the California segment of the EPGN. The on-ROW descriptions from the previous section provide the historical background for each county in which the proposed regeneration/OP-AMP stations are located. Therefore, the descriptions are not repeated here.

Twenty-five potential regeneration/OP-AMP station sites were initially identified along the route; one of the California stations would require the construction of a power line. Not all of these locations will be used for the construction of regeneration/OP-AMP stations; however, to enhance the project timeline during negotiations with electronic equipment vendors, EPGN requested that SWCA conduct a complete cultural resources inventory of each location. The identification of critical resources at any location would also be an important consideration in final station placement. Of the 25 possible locations in California,

six were selected for regeneration station placement, spaced along the route at intervals of approximately 50 miles.

Field Survey and Recording Methods

The regeneration/OP-AMP station document and maps were supplied to SWCA by Harp and Broadwing. Of the 22 potential regeneration station sites selected in California, 16 had been marked in the field with lath and flagging ribbon. For locations that were not marked, SWCA personnel surveyed at least 2 acres to ensure an adequate buffer zone. The regeneration station locations range in size from 1.00 acre to 18.78 acres, with an average area of 6.54 acres.

The station locations were all intensively surveyed for cultural resources. The archaeological survey performed at each location involved walking parallel transects spaced at no more than 15-meter intervals. The transects were oriented in either a north-south or east-west direction, depending on the orientation of the survey parcel.

In addition to the regeneration/OP-AMP station locations, two potential power-line corridors east of the townsite of Rice were surveyed for cultural resources. A power line would be needed to transmit electricity to Rice in the event that the site is selected for a station. The power line corridor was surveyed by walking a single transect down each side of the corridor centerline. When cultural remains were encountered, they were recorded and evaluated using the guidelines identified previously. Identified cultural remains were also evaluated to determine their eligibility for listing on the CRHR and the NRHP.

Survey Results

The six potential regeneration/OP-AMP station locations in California were surveyed on July 19 and September 4, 2000, and February 2 and 3, 2001. The vast majority of the locations are devoid of cultural resources. However, three locations contain isolated occurrences, and an undocumented feature associated with a previously recorded site was identified during the survey of the proposed power line near Rice. A brief overview of each location and a summary of the cultural resource findings follows.

El Mirage

The area for the proposed El Mirage regeneration facility is on the south side of El Mirage Road approximately 0.25 mile east of the intersection of El Mirage Road and 240th Street East. The general vicinity is open, rural land with occasional residences, storage sheds, and barns. The approximately 1-acre parcel consists of flat desert terrain with slightly undulating mounds in the western portion. The sandy soil is dotted with vegetation, primarily saltbush. A small (approximately 2 feet wide), dry, shallow (approximately 10 inches deep), natural drainage bisects the parcel in an east-west direction. An infrequently used dirt access road runs north-south under the power lines on the eastern boundary of the parcel. Across El Mirage Road to the north is a single modular home with two or three sheds.

The parcel exhibits evidence of blading in the recent past and there is a relatively small quantity of modern roadside trash scattered across the parcel. No cultural resources (other than the modern trash) are present within the site boundaries. Based on the record search and survey results, construction of a regeneration facility at this location would have no impact on any cultural resources.

Apple Valley

The proposed Apple Valley regeneration station location is north of SR 18, west of Soledad Drive and south of Charparosa Drive. The 5-acre parcel consists of flat desert terrain with creosote bush serving as the predominant form of plant life. On the east side of Soledad Drive, outside the proposed project boundary, is a house with several sheds and horse corrals. Small concentrations of modern-day refuse are scattered across the parcel, including clear and brown glass fragments, a few tin cans, and broken portions of clay pigeons probably used for target practice. Approximately 150 feet west from the intersection of Charparosa Drive and Soledad Drive and about 20 feet south of Soledad Drive are three small domestic pet burials marked with small white crosses and covered with stones. One of the crosses was hand printed with "Peepers". No other cultural resources were observed during the survey.

No cultural resources, other than the modern trash and three domestic pet burials, are present within the site boundaries. Avoidance of the small pet cemetery is recommended and should be easily achieved because it is located at the northern end of the parcel, farthest away from the proposed facility location. Based on the survey results, construction of a regeneration facility at this location would have no impact on any cultural resources.

Linn

The proposed Linn regeneration facility location is west of Shawnee Trail and north of Linn Road. This is the second parcel north of the Linn Option 2 location. The proposed 5-acre parcel is desert terrain that slopes slightly to the east and is dotted with sparse creosote and sagebrush. Scattered across the landscape are small to medium-sized residences with various sheds and carports. Directly east of the parcel is a two-story residence with a small shed. A small, abandoned house lies within the project boundary. This house will probably be removed from the site. Because this Small Tract house is less than 50 years old, it is not considered eligible for listing on the NRHP or the CRHR. Very little cultural material, mainly modern glass and tin can fragments, was observed on the parcel. No cultural resources more than 50 years old were found at the proposed site location; therefore, placement of a regeneration station at this locale would not affect any significant cultural resources.

Twentynine Palms

The proposed Twentynine Palms regeneration station site is on both sides of SR 62. The general area is typical desert terrain with fine-grained sandy soil, an abundance of rocks, and numerous species of desert plants. Running in a roughly north-south direction across the southern portion of the parcel are two relatively large washes. The terrain slopes slightly to the northeast. An unoccupied but well maintained residence is located on the south side of SR 62 and has the house number 87101 on the front entrance. The house does not appear to be more than 50 years old. Virtually no cultural material was observed on the parcel. Construction of a regeneration facility at this location would not affect any significant cultural resources. However, the area may be problematic given that it is within a wash that appears to contain significant amounts of water during certain times of year.

Rice

The town of Rice has been recommended as eligible for NRHP listing under criterion D. As such, its historic values lie largely in its ability to yield information important to the understanding of broad patterns in history. The information is contained in the physical remains of the town site, archival records and documentation, and narrative histories. The proposed area for the Rice regeneration station is near the intersection of SR 62 and Midland Road within the town limits. In addition, to bring power to the remote

station, a power line must be constructed from a power utility location 3 miles east of the intersection. Siting for the regeneration building was the result of careful consideration of the historic values of the property. A lot was chosen that contains no significant cultural features or deposits. The location does contain two small concrete pads that may be foundations for outbuildings and a light, dispersed scatter of refuse that appears to be from the late 1950s and 1960s, which is not within the period of historical significance for the Rice townsite.

The townsite is in ruins, with no standing buildings relating to its period of significance. The introduction of the prefabricated building does constitute an alien introduction into the rural landscape. To mitigate this effect, the building's exterior surface is being designed to blend in with the stark desert landscape.

Erection of a power line from the nearest power source, 3 miles distant, would introduce an additional visual impact that runs to the north of the Camp Rice airfield. EPGN proposes to construct the power line with wooden poles and cross-arms that are visually similar to powerlines that were present during the period of historical significance, World War II. Photographs of the period demonstrate that a variety of pole lines were in use to bring power and communication to the facilities, ranging from a pole suspending a single line by a pin-type glass insulator to multiple lines suspended from poles with five or more cross-arms. The pole line proposed will suspend two lines, a hot line and a ground line. Some design changes may be required to protect raptors from electrocution. Presently, the design calls for separating the two lines vertically, rather than horizontally.

Several cultural resource properties are present along the proposed power line routes. These properties include the previously recorded ATSF (SBR-9853H) and an associated feature; the Colorado River Aqueduct; SR 62; a historical power line; Rice Army Airfield; and Camp Rice. None of these cultural properties would be adversely affected by the construction of a proposed power line.

Blythe

The area proposed for the Blythe regeneration facility is north of the town of Blythe, at the southeast corner of Lovekin Boulevard and the railroad tracks. The terrain in this area is typical flat, dry desert dotted with saltbush vegetation. The area has been thoroughly disturbed by bulldozer activity, railroad and road construction and maintenance, and off-road vehicular traffic.

A recently recorded site covers much of the parcel and consists of two small 1940s refuse scatters that appear to be the result of a single dumping episode. The larger of the two scatters, Locus 1, is approximately 55 feet from the north shoulder of the road; Locus 2 is approximately 26 feet north of the road. Deteriorating cans, bottles, glass fragments, and other forms of debris are scattered over the entire parcel.

This site has been recommended as not eligible for listing on the NRHP under any of the four criteria identified in 36CFR60.4. The extent of ground-disturbing activities within the parcel leads to the conclusion that there is little or no potential for buried artifacts within the subsurface stratum. As an ineligible property, the site does not warrant consideration for further cultural resource management. Consequently, placement of a regeneration station at this locale would not affect any significant cultural resources.

Cultural Resource Findings

Atchison, Topeka and Santa Fe Railroad (Site SBR-9853H)

Site SBR-9853H is the Parker branch or Cadiz cutoff of the ATSF (originally the Arizona & Pacific Railroad). This segment of the railroad facilitated passenger and freight traffic through the area and provided a direct route from Phoenix to California. The line was completed in July 1910 and continues to be used today, as part of the Union Pacific system. The railroad was recorded as a site during a survey in a different quadrangle (Hamilton and Horne 1999). The original recorders recommended that the railroad be determined eligible for listing on the NRHP; SWCA concurs with this recommendation (Purcell 2000).

The ATSF line passes through the Rice townsite. However, the railroad would not be directly affected by the construction of a regeneration station and associated power line at Rice. Likewise, the visual integrity of the railroad would not be adversely affected by the proposed facilities, as they would be placed on the south side of SR 62, opposite the railroad's viewshed as experienced by people traveling the highway.

Rice Townsite (Site FS 30)

The historical townsite of Rice is at the intersection of SR 62 and Midland Road. Originally called Blythe Junction, Rice had its start as a railroad town on the ATSF line during the first decade of the 1900s. In the early 1930s, the construction of the Colorado River Aqueduct brought additional economic prosperity to the town. However, Rice did not experience its heyday until the early 1940s when, in preparation for potential warfare in the deserts of North Africa, several military training facilities under the direction of General George Patton were established near the town. Rice remained a hub of activity for servicemen stationed at the installations during the war. By war's end, however, the boom was over and Rice began slipping into obscurity. By the early 1970s, Rice had become a ghost town, and today the site is little more than a curiosity to most motorists speeding down SR 62.

The townsite of Rice was recorded during the survey of the El Paso to Los Angeles Fiber Optic Cable ROW. SWCA personnel identified and documented 71 features at the townsite and many refuse piles on the south side of SR 62 and along both sides of Midland Road.

Because of the significant role the town played in the settlement and early development of this part of the Mojave Desert, and the potential for the remains to yield additional, significant information on the history of the town and the surrounding area, SWCA recommended that Rice be determined eligible for listing on the NRHP under Criteria A and D. However, many of the buildings and structural features at Rice do not contribute to the significance of the townsite because they are in complete ruins or consist of little more than concrete foundation pads and scattered building debris mixed with modern debris. On the other hand, a few of the buildings in the eastern area of the site retain relatively high integrity, and most of the individual refuse deposits are largely intact; some of these features are considered contributing elements of Rice's overall significance. The proposed project ROW will be located within Midland Road to avoid any potential impacts to the Rice townsite.

Colorado River Aqueduct (Site FS 51)

The Colorado River Aqueduct was constructed by the Los Angeles Metropolitan Water District (MWD) in the early 1930s. The aqueduct extends from Lake Havasu, on the Colorado River upstream from Parker Dam in Arizona, to Lake Mathews south of Riverside. The aqueduct consists of a large, open, concrete-lined canal crossing the Colorado and Mojave Deserts and long tunnels bored beneath mountain ranges and other landscape relief (Purcell 2000). Some features of the system, such as the Iron Mountain Pump

Station where the water is pumped through the Iron Mountain Tunnel, have reportedly been evaluated and placed on the NRHP (Rolla Queen, pers. comm.).

SWCA recorded the Colorado River Aqueduct as FS 51 during the survey of EPGN project and recommends that it, too, is eligible for listing on the NRHP for its significant association under Criteria A, B, and C. The El Paso to Los Angeles Fiber Optic Project POD (Purcell 2000) requires boring beneath structures such as the Colorado River Aqueduct, thus avoiding direct impacts to the site.
At Rice, the regeneration station facility and power line would be placed on the south side of SR 62, whereas the aqueduct is north of the highway. From the standpoint of a motorist traveling down SR 62, a regeneration station facility and power line at Rice would not affect the view of the aqueduct. Therefore, the proposed Rice regeneration station facility and associated power line would not have an adverse effect on the visual integrity of the aqueduct.

California SR 62 (Site FS 77)

California SR 62 (FS 77) links Parker, Arizona, on the Colorado River, and Palm Springs, California. SR 62 is also known as Aqueduct Road (DeLorme 1998), and although part of it may have been in existence before or built to aid the Colorado River Aqueduct construction effort in the early 1930s, most of SR 62 was built after World War II (Bishchoff 2000; Purcell 2000). It was not until 1959 that the route was completely paved (Weight 1977, in Bishchoff 2000). SR 62 is currently characterized as an asphalt-paved two-lane highway with unpaved shoulders.

The preferred route of EPGN follows the ROW of SR 62 from its intersection with Midland Road at Rice west to Sunburst Road in the town of Joshua Tree. SWCA recorded the SR 62 during the proposed project survey but recommended that it is not eligible for listing on the NRHP under any of the four criteria identified in 36CFR60.4 (see Purcell 2000). As an ineligible property, California SR 62 does not warrant further consideration for cultural resource management.

Site FS 78

Site FS 78 consists of the remains of a power line that once ran parallel to the south side of SR 62. The power line extended eastward from the townsite of Rice for at least 3.5 miles. Physical evidence of the power line was observed during the survey of the proposed corridor for the Rice regeneration station power line. Remnants of FS 78 consist of occasional sections of poles that have been either cut or broken off at ground level; hardware such as galvanized bolts, nuts, washers, and cable tie-downs; and a few clear glass insulator fragments. Based on the extant remains, the power line was probably installed in the 1930s or 1940s. The primary purpose of the line appears to have been to supply power to Rice. However, it is likely the line also provided electricity to the nearby World War II military installations at Rice Army Airfield and Camp Rice. Southern California Edison was contacted in an attempt to gain additional information about the line, but no information has been provided as of this writing.

SWCA recommends that FS 78 be determined not eligible for listing on the NRHP because it lacks the requisite integrity and does not meet any of the criteria identified in 36CFR60.4. As an ineligible property, FS 78 does not warrant further consideration for cultural resource management.

Because FS 78 is not eligible for listing on the NRHP or the CRHR, there would be no adverse effects from the proposed construction.

Rice Army Airfield (Site FS 79)

Between 1942 and 1944, various military facilities were established in the harsh desert region of southeastern California, southwestern Arizona, and southern Nevada (Bischoff 2000). Known collectively as the Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA), the facilities were intended to prepare troops for the rigors of desert warfare (Bischoff 2000; BLM, California Desert District 1986). Four of these military installations were established near Rice. Rice Army Airfield, approximately 2 miles to the east, is the installation closest to the Rice townsite.

Rice Army Airfield was established in fall 1942 and remained in operation until fall 1944 (Bischoff 2000). Unlike most of the divisional camps, Rice Airfield contained a number of buildings and structures intended to be more "permanent," including improved-surface runways, barracks, recreation facilities and mess halls, power houses, hangars, and dormitories. Although the buildings were removed when the base was closed, their concrete foundations are still visible today (Bischoff 2000). Because the physical remains retain integrity and are able to reflect their historical associations, the Rice Army Airfield is considered eligible for listing on the NRHP (Bischoff 2000; Rolla Queen, pers. comm..).

The Rice Airfield is south of the proposed regeneration station power line route, outside of the power line survey corridor. Consequently, the airfield was not examined during the current survey. The survey corridor does bisect the main entrance road to the airfield immediately south of SR 62. However, no other evidence of the airfield was observed during the survey. In fact, the entrance road appears to the casual observer as a pullout, rather unusually marked by a large tree decorated with shoes that passing motorists have hung from its branches.

The proposed power line would not directly affect any physical remains at the Rice Army Airfield. In terms of indirect visual impacts, the proposed power line would follow the same route as a previous power line (FS 78). Because installing the proposed power line would be, in a sense, similar to reintroducing an element of the historical landscape, the new power line would not adversely affect the visual integrity of the airfield.

Camp Rice (Site FS 80)

Camp Rice (FS 80) is approximately 4 miles east of the Rice townsite, immediately east of Rice Army Airfield. Camp Rice was a short-lived divisional camp constructed in early 1942. The 5th Armored Division occupied Camp Rice until October of the same year; it is unclear whether another unit subsequently occupied the camp (Bischoff 2000). Because of its apparently brief existence, relatively little archival information is available about the camp (Bischoff 2000). In terms of physical remains, the camp contains a number of rock-lined roads and walkways and, purportedly, a scaled topographic relief map like the one at Camp Iron Mountain (see below). Because these physical remains retain integrity and are able to reflect their historical associations, Camp Rice is considered eligible for listing on the NRHP (Bischoff 2000; Rolla Queen, pers. comm.).

The proposed regeneration station power line route bisects the very northwestern edge of Camp Rice. During the survey of the power line corridor, one rock-lined road extending south from SR 62 was encountered. Other than this road, no other remains were observed, and the remainder of the camp was not examined during the current survey. According to Bischoff (2000:88), the best preserved portions of Camp Rice are located approximately 1.5 miles east of the bend in SR 62 (roughly 1.5 miles east of where the proposed power line would tap into the existing power source at a cellular tower).

The proposed power line would not directly affect any physical remains at Camp Rice. Likewise, the proposed power line would not have an adverse effect on the visual integrity of the camp because it would

follow the same route as an earlier power line (FS 78), thus reintroducing an element of the historical landscape.

Camp Iron Mountain (Site FS 81)

Of all the divisional camps in the DTC/C-AMA, Camp Iron Mountain (FS 81) is probably the best known and best preserved (Bischoff 2000; BLM 1986). Established in spring 1942, Camp Iron Mountain contains a number of features not present at most of the other camps, including two outdoor chapels constructed of native stone and a large topographic relief map that depicts the entire DTC/C-AMA training area. Because of the overall good condition of the camp and its ability to convey significant historical associations, Camp Iron Mountain is in the process of being nominated for listing on the NRHP (Rolla Queen, pers. comm.).

Camp Granite (Site FS 82)

Established in spring and summer 1943, Camp Granite (FS 82) lies south of SR 62 and almost directly south of Camp Iron Mountain. Camp Granite was originally laid out near the valley floor, closer to SR 62. However, problems with flooding necessitated its being moved further south, closer to the mountains; the date of the move is not known (Bischoff 2000). Erosion has obliterated much of the eastern portion of the camp, but the western portion near the foot of the Granite Mountains is well preserved (Bischoff 2000). This portion of the camp still exhibits some intact features, including rock-lined roads and walkways and unit insignias. Because the physical remains retain integrity and are able to reflect their historical associations, Camp Granite is considered eligible for listing on the NRHP (Bischoff 2000; Rolla Queen, pers. comm.).

SUMMARY

On July 19 and September 4, 2000, and February 2 and 3, 2001, SWCA and ENTRIX conducted cultural resource surveys of the locations of 25 potential regeneration station sites and associated power lines along the California segment of the EPGN project route. The proposed regeneration station locations were devoid of significant cultural remains.

The primary concern at the Rice location is avoiding direct impacts on significant resources that contribute to the NRHP and CRHR eligibility of the Rice townsite. The conduit and cable will be installed within Midland Road in the area of the townsite to avoid any potential impacts.

TREATMENT ACTIONS

Impacts on eligible cultural resources have been avoided by designing the project to avoid eligible cultural resources during system placement. Table 4.6-10 presents the recommendations for site treatment, based on recommended site eligibility, location of the site relative to the preferred route and alternative routes, construction methods as described in the project description, and the current state of project engineering plans.

Should portions of the project design change, the locations of all changes will need to be analyzed to determine if the proposed changes may adversely affect eligible archaeological sites or historical buildings. No changes that could adversely affect significant cultural resources will be authorized without consultation between the CPUC and the SHPO.

ENVIRONMENTAL IMPACTS ON-ROW

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

Impact CR-1

SWCA has completed the initial aspect of this mitigation measure by conducting appropriate data research (through record searches and field surveys) to identify known resources and permit the proposed project to avoid the resources during construction. There are nine (BL 31, 22, 23, 32a, 35, 39, 41, 43a, 43b) historic buildings that were previously listed or have been determined potentially eligible for listing on the NRHP. These buildings are not within the proposed project ROW; however, construction impacts may be associated with project development that require mitigation measures. These treatments are listed in Table 4.6-10.

All of these buildings have been determined potentially eligible for listing on the NRHP and the CRHR. The SHPO must grant concurrence with this determination to confirm that mitigation measures should be applied. As stated in the SWCA cultural resources report, none of the buildings are within the proposed project ROW. The types of project impacts are less than significant and would require minimal mitigation measures. The types of impacts include temporary access restrictions due to construction; alteration of fences, curbs, and driveways; and visual impacts related to construction equipment (this does not include project impacts to historic buildings at the regeneration sites).

In instances where field conditions did not permit an assessment of whether cultural resources existed within a project location, such as below paved streets in urban settings, implementation of the following measures will reduce potential impacts on cultural resources to a less-than-significant level.

Table 4.6-10. Eligibility and Proposed Treatment of Archaeological Sites and Historical Buildings Recorded during the El Paso to Los Angeles Fiber Optic Cable Survey, California Segment

Proposed Treatment	Site Number	Total
*Recommended as **Not Eligible or Portion Not Contributing** to the National Register of Historic Places*		
Avoidance not required (sites are not eligible). No further work recommended. *Note: Small Tract Act Homesteads (ST 1-307) and Isolated Occurrences (IO 1-87) are also recommended as not eligible; avoidance of these classes of cultural resources is not recommended.*	FS 1, FS 2, FS 4, FS 5, FS 6, FS 7, FS 8, FS 9, FS 12, FS 17, FS 25, FS 26, FS 28, FS 29, FS 31, FS 35, FS 37, FS 40, FS 41, FS 42, FS 43, FS 45, FS 46, FS 47, FS 48, FS 49, FS 50, FS 53, FS 54, FS 55, FS 60, FS 66, FS 67, FS 72, FS 73, FS 74, FS 76, FS 77 RIV-872T RIV-1498H RIV-3604 SBR-3435 SBR-7061H SBR-7994H 19-150148 BL 1, BL 2, BL 3, BL 4, BL 5, BL 6, BL 7, BL 8, BL 9, BL 10, BL 11, BL 12, BL 13, BL 14, BL 15, BL 16, BL 17, BL 18, BL 19, BL 20, BL 21a, BL 21b, BL 24, BL 25, BL 26, BL 27, BL 28, BL 29, BL 30, BL 32b, BL 33, BL 34, BL 36, BL 37, BL 38(4), BL 40, BL 42, BL 44, BL 45, BL 46, BL 47, BL 48, BL 49, BL 50, BL 51, BL 52, BL 53, BL 54, BL 55, BL 56, BL 57, BL 58, BL 59, BL 60, BL 61, BL 62, BL 63(5), BL 64 Note: ( ) indicates number of buildings on property recorded as single BL	103
Sites within proposed ROW not contributing to site eligibility; eligibility outside the ROW evaluated from previous descriptions or determinations.	RIV-1113H SBR-2910H, SBR-3033H, SBR-4179H, SBR-4269H, SBR-4272H, SBR 4411H LAN-630, LAN-1610H, LAN-2148T	10
TOTAL		**113**
*Recommended as **Eligible** to the National Register of Historic Places*		
Site on alternate route to final design.	BL 31, LAN-2677H	2
Site on opposite side of road from proposed system installation.	FS 15	1
Site on same side of road as proposed system installation, but no impacts to site; construction monitoring is recommended.	FS 18, FS 23, FS 27, FS 30, FS 68, FS 69 SBR-9853H, LAN-2105H, LAN-2681H	9
Avoided by design/boring beneath Avoiding standing/occupied buildings	FS 51,FS 100,SBR-6793H, LAN-1534H BL 22, BL 23, BL 32a, BL 35, BL 39, BL 41, BL 43a, BL 43b	12
Historical overhead transmission lines (no impact)	PSBR-38H, PSBR-39H, SBR-7694H, LAN-2132 H, LAN-2149H	5
Avoid by placing system/facilities to avoid intact/contributing portions of site; construction monitoring will be necessary.	FS 71, FS 75, LAN-623, LAN-633	4
TOTAL		**33**
GRAND TOTAL INCLUDING NOT ELIGIBLE AND ELIGIBLE		**146**

Mitigation CR-1

Measures that shall be implemented by EPGN on segments of the system include the following:

- Submit all survey reports and site records prepared as part of the cultural resource assessment for the proposed project on-ROW work to the appropriate California Historical Resources Information Center (CHRIS) clearinghouses as required.
- Mitigation for BL 31, 22, 23, 32a, 35, 39, 41, 43a, 43b: A Programmatic Agreement is in the process of being drafted between the BLM, the National Park Service, the ACOE, the Bureau of Indian Affairs, the Arizona SHPO, the California SHPO, the New Mexico SHPO, the Texas SHPO, the Gila River Indian Community, and EPGN. The purposes of this agreement are to identify historic properties, evaluate NRHP eligibility, determine the effects of the project on historic properties, resolve adverse effects, coordinate NEPA and CEQA, authorize construction, document discoveries during construction and dispute resolutions. This document shall be specifically cited in the final IS/MND.

Suggested general mitigation measures that shall be implemented by EGPN for impacts to buildings include the following:

- Coordination with the California SHPO, CPUC, local agencies, and jurisdictions on all impacts to historic buildings or property associated with historic buildings.
- Avoidance of impacts to any historic features or structures associated with historic buildings through project design.
- Reduce construction-related short-term impacts to a less-than-significant level by shortening construction time and avoiding construction activities on weekends and holidays.

Mitigation measures that shall be implemented by EGPN for impacts to archaeological sites and traditional and cultural land use areas include the following:

- All known historic and prehistoric archaeological sites and areas of Native American traditional or cultural use shall be avoided sufficiently to preclude impact to the property. To ensure protection and avoidance of sensitive resources, each site shall be flagged or fenced by an archaeologist before construction activities. Limited subsurface test excavation to establish site boundaries or depth may be necessary (subject to federal or Indian tribal approval on federal lands). If re-routing is not feasible, then directional boring beneath the resource shall be implemented, assuming the disturbance is kept to a minimum depth of 15 feet below the existing grade, and there are no "frac-outs" of drilling mud or water into the site. Should drilling mud enter the site, the resource shall be considered to have been affected to a less-than-significant degree. Clean-up of the drilling mud within an archaeological site would require monitoring by a qualified archaeologist, and ground-disturbing activities shall be kept to a minimum. If site avoidance is not feasible (e.g., boring at a depth of at least 15 feet cannot be achieved), a meeting with CPUC, tribal representatives, and other agencies shall be held to determine if data recovery should be implemented before construction.
- During construction activities, a qualified archaeologist would monitor sensitive portions of the route to ensure that cultural resources would be avoided and to ensure that mitigation plans are followed. Additional archaeological monitoring of construction shall occur at the discretion of the CPUC as determined necessary (e.g., at creek or river crossings).
- Should previously unidentified cultural resources be encountered during construction, work in the immediate area of the find shall stop until a qualified archaeologist can evaluate the find and make appropriate recommendations for mitigation, if warranted. If the find is significant (meeting either the CRHR or NRHP criteria), the resource shall be avoided if possible. If not possible, data

recovery shall be undertaken as mitigation, if this data recovery would not adversely affect significant site values (e.g., traditional and sacred concerns). Data recovery shall be directed as described in an appropriate, agency-approved Research Design, detailing the methods to be used during recovery and analysis, research questions to be addressed, and artifact curation requirements. The technical report of findings shall be submitted to the CPUC, pertinent agencies, and the appropriate CHRIS Information Center.

- Conduct appropriate consultation with federal land management agencies (USFS, BLM) as necessary for archaeological properties under their jurisdiction; obtain required permits before conducting work.
- On federal lands, treat unavoidable sites in accordance with the mitigation measures outlined in the El Paso Environmental Assessment submitted to the BLM.
- Conduct worker educational training to describe the importance of historic preservation efforts on the proposed project and the legal ramifications for failure to protect significant resources. Such training shall be conducted as often as necessary to ensure that the entire workforce has received the necessary training.
- Should the Native American Heritage Commission database search indicate the presence of sacred lands or traditional or cultural use areas, undertake appropriate consultation with identified tribal representatives or individuals. Use Native American monitors during construction as determined necessary in consultation with tribal entities.
- In the event that human remains are discovered, the appropriate County Coroner and the Native American Heritage Commission shall be contacted within 24 hours of the find. The steps outlined in CEQA Section 15064.5(e) shall be followed. On federal lands, the steps outlined in the Native American Graves Protection and Repatriation Act (NAGPRA) shall be followed.
- Should previously unknown paleontological resources or significant fossiliferous deposits be found on a parcel during construction, the area shall be subject to monitoring by a qualified paleontologist during construction grading and excavation. Should any significant remains be discovered during construction, work shall stop in the immediate area of the find until such time that a qualified paleontologist can review the discovery and recommend appropriate mitigation. Such mitigation could involve onsite analysis and/or recovery of the find, leading to subsequent analysis and reporting on the discovery.

ENVIRONMENTAL IMPACTS OFF-ROW

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Impact CR-2

Rice Townsite

Installation of the system could affect the Rice site, depending on its location. The townsite of Rice (FS 30) contains significant cultural remains, whereas other areas of the site either lack such remains or are devoid of cultural resources altogether.

Another consideration regarding the Rice regeneration station location is the lack of readily available electricity. The nearest power line is approximately 3.8 miles east of Rice, necessitating the construction of a transmission line along SR 62 from the source (at an existing cellular tower) to the proposed regeneration station sites. Two potential routes for the power line were examined for cultural resources. One of the routes extends northward from the source at a cellular tower, across SR 62. It then turns west, paralleling the north side of SR 62 to Rice. The other route also extends northward from the source at the

tower but turns west to Rice, paralleling the south side of the highway. Both possible routes are approximately 50 feet from the centerline of the highway.

Several cultural resource properties are present along the proposed power line routes. These properties include the previously recorded ATSF (SBR-9853H) and an associated feature (Feature 1) identified during this survey; the Colorado River Aqueduct (FS 51); SR 62 (FS 77); a historical power line (FS 78); Rice Army Airfield (FS 79); and Camp Rice (FS 80). None of these cultural properties would be adversely affected by the construction of the proposed power line.

Mitigation CR-2

The primary concern is avoiding direct impacts to significant resources at the Rice location that contribute to the National Register and California Register eligibility of the Rice townsite. The system shall be installed within Midland Road in the area adjacent to the townsite; therefore, no direct impacts will occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CR-3

All Regeneration Stations

As stated above for on-ROW sites, field surveys and additional research were conducted, and the proposed project would have a less-than-significant impact on cultural resources.

Mitigation CR-3

Should previously unidentified cultural resources be encountered during construction, work in the immediate area of the find shall stop until such time that a qualified archaeologist can evaluate the find and make appropriate recommendations for mitigation, if warranted.

If the find is significant, the resource shall be avoided. If avoidance is not possible, a meeting with the CPUC and other agency personnel shall be held to discuss data recovery and/or other measures as possible mitigation. Data recovery may be considered appropriate mitigation when it reduces a significant impact to a less-than-significant level, but this would be dependent upon the value of the discovered resource. An appropriate research design describing the methods to be used during recovery and analysis, research questions to be addressed, and artifact curation requirements shall direct the data recovery. The technical report of findings shall be submitted to the CPUC and the appropriate CHRIS Information Centers.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact CR-4

All Regeneration Stations

Based on information compiled by Dr. Robert E. Reynolds, Curator of Geology for the San Bernardino County Museum (www.mojavedata.gov/bones), the sections of the proposed project route that traverse

substantial areas of bedrock with a high potential for paleontologic resources are those through Twentynine Palms, the Victorville area, and San Fernando Pass. These three areas are classified as High Sensitivity A (Reynolds 2001). Sediments in the High Sensitivity A category include rocks of Silurian and Devonian age and younger that may contain remains of fossil fish and Mesozoic and Cenozoic rocks that contain body elements and trace fossils such as tracks, nests, and eggs.

Nevertheless, the possibility of the project encountering paleontologic resources in these areas is very limited. The route follows existing transportation corridors that have been engineered along the most level and least expensive alignments; these generally follow the Pleistocene and Holocene erosional bajadas, rather than the bedrock outcrops of the desert mountain ranges. The project description for construction of the fiber optic cable system avoids bedrock wherever possible, making it very unlikely that any in situ, significant fossils other than Pleistocene and early Holocene age remains would be encountered. Furthermore, the proposed cable alignment is entirely within previously disturbed natural gas pipeline and highway ROWs, which are unlikely to still contain undisturbed fossils in situ.

As stated above for on-ROW sites, in locations for which field surveys and research were conducted, the proposed project would have a less-than-significant impact on cultural resources. For locations where surveys were not conducted, the following mitigation measure would reduce impacts to a less-than-significant level.

Mitigation CR-4

Monitoring by a qualified paleontologist during construction grading and excavation shall be required. Should any significant remains be discovered during construction, work shall stop in the immediate area of the find until a qualified paleontologist can review the discovery and recommend appropriate mitigation. Such mitigation could involve onsite analysis and/or recovery of the find, leading to subsequent analysis and reporting on the discovery.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Impact CR-5

All Regeneration Stations

As stated above for on-ROW sites, the proposed project would have a less-than-significant impact on cultural resources such as human remains.

Mitigation CR-5

In the event that human remains are discovered at any of the proposed project sites; all work in the immediate area shall stop, and the County Coroner and the Native American Heritage Commission shall be contacted within 24 hours of the find. The steps outlined in CEQA Section 15064.5(e) shall be followed. On federal lands, the steps outlined in the Native American Graves Protection and Repatriation Act (NAGPRA) shall be followed.

4.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

The proposed project route crosses a wide variety of geologic formations and landforms. The rocks and sediments may range from deep, unconsolidated sediments found in valley areas to hard rock found

within inches of the ground surface in desert areas. No known unique geologic features occur along the proposed route.

The route passes through areas with a wide range of slope conditions. The slope of the long axis (as opposed to the side slope) along most of the route is generally less than 10 percent because the proposed route tends to follow gently sloping road grades.

The proposed route passes through areas that are subject to strong earthquake-induced ground shaking and over active and potentially active earthquake faults. The faults are subject to ground surface displacement, which may occur in a variety of relative motions depending on the type of fault involved. In a few areas, the sediments underlying the system are subject to earthquake-induced liquefaction, which may cause differential ground settlement and lateral spreading. Conditions most conducive to liquefaction include a fault capable of causing ground shaking and the presence of clean, loose, saturated sandy soils within 50 feet of the ground surface.

Soil characteristics vary widely throughout the areas crossed by the proposed system. This variation is due in large part to a wide range of topography, parent material, climate, vegetative cover, and disturbances associated with past construction in the proposed ROWs (e.g., road construction). The texture of soils along the system varies from rocky and sandy to granitic. In some areas, the soils have been compacted as a result of past construction in the ROWs. The soils also vary in terms of drainage characteristics, depth to rock, fertility, expansion potential, amount and type of protective vegetative cover, and other characteristics.

A SWPPP (which includes erosion and sediment control measures) is required for the project by the U.S. Environmental Protection Agency (EPA), as implemented by the California RWQCB, to comply with National Pollution Discharge Elimination System (NPDES) requirements.

OFF-ROW

Blythe Regeneration Station Site

Rice Regeneration Station Site

The proposed Blythe and Rice regeneration station sites are located in the Colorado River Trough. The trough is a geologic feature produced by millions of years of regional faulting, down-warping (i.e., folding or bending of the geologic strata), and sediment infilling. Faulting activity is believed to have ceased more than 1 million years ago. Mesas located within the trough are the result of two processes: the deposition and erosion of alluvial materials that were controlled by regional uplift and climate changes that have been active for the last 2 million years. Sediments that underlie the area are composed of gravel, sand, silt and clay and are known to be thicker than 600 feet.

There are no active or potentially active faults known to be located within or in close proximity to the proposed project study area. Neither are there any Special Studies Zones as designated by the State Geologist under the Alquist-Priolo Special Studies Zone Act of 1972. The nearest active fault is the San Andreas fault zone, located approximately 50 to 70 miles southwest of the area. The faulting potential of the San Andreas Fault is considered the greatest of all faults in California. Other faults mapped in the nearby mountains are considered to be inactive because they are contained within the much older rocks of the region. The potential for ground rupture in the project study area due to faulting is considered very low.

The area is underlain with sediments consisting of soil and alluvial materials composed of gravel, sand, silt, and clay. Minor amounts of fine-grained, wind-blown sand are also present locally. Subsurface soils consist of alluvial deposits mainly from the Colorado River and, to a lesser degree, from the washes and alluvial fans to the west and northwest. Alluvial units are divided into older and younger alluvium.

The area is within a zone of potential liquefaction. Liquefaction is the loss in strength of sandy soils that results in a temporary transition of soil to a fluid mass similar to "quicksand." This phenomenon may be expected to occur in areas of shallow groundwater (generally less than 30 feet below the surface) when subjected to dynamic forces of ground shaking. Groundwater levels are generally quite shallow in the project study area; therefore, the liquefaction potential is characterized as moderate.

The area is bounded by high terrain, with the exception of the inlet and outlet of the Colorado River. The climatic conditions present circumstances that rapidly dry out the soils and lead to dust and fine silt being carried from fields by winds and deposited in other areas. Wind erosion and blowing sand are also associated with site grading, which can be a significant source of soil de-stabilization and erosion. Control and stabilization of disturbed soils are essential construction management practices to mitigate impacts.

Twentynine Palms Regeneration Station Site

Linn Regeneration Site

Apple Valley Regeneration Station Site

El Mirage Regeneration Station Site

The proposed Twentynine Palms, Linn, Apple Valley, and El Mirage regeneration station sites are located in the Mojave Desert region of western San Bernardino County and eastern Los Angeles County. Elevations in the area range from less than 600 feet at the eastern portion of the county border between San Bernardino and Riverside Counties to more than 3,300 feet near the western San Bernardino County border with Los Angeles County. The soils in the desert valleys are derived from alluvial and colluvial deposition.

Severe seismic activity has occurred in the project study area in the past. The potential exists for a major earthquake occurring in the area, which may result in loss of life, injury, or displacement of many thousands of persons. Major fault systems that could affect the area include the San Andreas Fault, Helendale Fault, North Frontal Fault, Landers Fault, and San Jacinto Fault. The San Andreas Fault is 10 to 20 miles south of the area and is considered the most likely fault to produce a major earthquake. The Helendale Fault to the northeast could also be responsible for a moderate earthquake. The San Jacinto Fault is approximately 25 miles south of the area and runs parallel to the San Andreas Fault. The North Frontal Fault is to the south along the base of the Ord Mountains. The Landers Fault is approximately 50 miles southeast of Victorville and was discovered in 1992 as result of an earthquake that measured magnitude 7.4 on the Richter scale.

The proposed Apple Valley regeneration station site near the Mojave River could be susceptible to liquefaction. Liquefaction results when the water-saturated, sandy, unstable soils near the river are subject to intense shaking caused by an earthquake. The other proposed regeneration station sites are located in areas that are not susceptible to liquefaction.

The proposed El Mirage regeneration station site is in the Antelope Valley and Mojave Desert area of Los Angeles County. These areas form a desert basin in the northeastern part of the county. The basin is filled

with alluvium with remnants of old ridges that appear as scattered buttes in the eastern part. Elevations in the basin range from a low of 2,290 feet at the Rosamond Dry Lakebed to 3,800 feet in the southeast. The San Andreas rift zone separates the northern basin from the San Gabriel Mountains to the south.

Soils in the basin are a surface layer of nearly level, moderately well-drained, very deep, loamy sand to silty clay loam on recent alluvial fans. Surface-layer soils along the basin rim are nearly level, moderately well-drained, loamy fine sand to loam that are shallow to moderately deep over caliche (a crust of calcium carbonate that sometimes forms on or in the soil in dry regions).

Several active or potentially active faults are known to be located within or in close proximity to the basin area. Both proposed regeneration station sites are located in Special Studies Zones as designated by the State Geologist under the Alquist-Priolo Special Studies Zone Act of 1972. The nearest active fault is the San Andreas fault zone, which forms the southern boundary of the area. The faulting potential of the San Andreas Fault is considered the greatest of all faults in California. Other faults mapped in the basin and nearby mountains include the Cemetery Fault, the Nadeau Fault, and the Littlerock Fault. All three faults are active splays of the San Andreas Fault. In addition to the San Andreas Fault system, other faults that could produce damaging earthquakes are the Sierra Madre-San Fernando, Garlock, Owens Valley, and White Wolf Faults. The Sierra Madre Fault is 20 miles south of the area, the Garlock Fault is 30 miles to the northwest, the White Wolf Fault is 60 miles to the northwest, and the Owens Valley Fault is 60 miles to the northeast. The potential for ground rupture in the project study area due to faulting is considered very high.

Soil expansion potential in the area proposed for the regeneration stations is generally categorized as low to moderate. The potential for soil erosion is categorized as moderate to slight. Liquefaction potential is also listed as slight due to the large depth to groundwater.

ENVIRONMENTAL IMPACTS

ON-ROW

Would the project:

a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault?

(ii) Strong seismic ground shaking?

(iii) Seismic-related ground failure, including liquefaction?

(iv) Landslides?

Ground surface displacement of earthquake fault traces could damage the fiber optic cable and conduit where the conduits pass through faults. Although the fault movement could disrupt the operation of the system, there will be no physical impact on humans or the environment. This impact is considered less than significant because the system will be designed so that the conduits can accommodate earthquake fault offsets at the soil surface and because damage to the system will not have an adverse effect on humans or the environment.

b) Result in substantial soil erosion or the loss of topsoil?

Erosion is a natural process; however, accelerated erosion, which is the rate of erosion beyond that of natural erosion, generally occurs as a result of human activities. Soils along the proposed route, many of which are already disturbed, vary widely with respect to their erosion hazard. Ground-disturbing activities, including removal of vegetation, can cause increased water runoff rates and concentrated flows, and may cause accelerated erosion, with a concentrated loss of soil productivity. The eroded material (i.e., sediment) could degrade the quality of receiving waters.

EPGN has prepared and shall implement a SWPPP for the proposed fiber optic cable route from the Arizona border to Los Angeles. The SWPPP includes mitigation measures to control accelerated erosion and sedimentation. EPGN has committed to these mitigation measures as part of the proposed project SWPPP (see Appendix D).

Because the area of soil disturbance will be small within the given area, there will not be a substantial opportunity for erosion to occur, except along those portions of the proposed route that are designed to pass along steep slopes. The erosion and sediment control measures, if properly prescribed, implemented, and maintained, are expected to reduce erosion rates during and after construction to near pre-construction rates. By implementing these SWPPP mitigation measures and incorporating best management practices (BMPs) and the following mitigation measures, this impact is considered less than significant.

Impact G&S-1

Minor potential exists for erosion due to excavation, grading, and fill. This impact will be reduced to a less-than-significant level with implementation of the following mitigation measure.

Mitigation Measure G&S-1

EPGN shall comply with all local design, construction, and safety standards through required permitting processes and shall provide erosion control plans for any areas that are identified as susceptible to erosion.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The proposed project route passes through some areas that are subject to earthquake-induced liquefaction. Liquefaction and the resulting differential ground settlement and lateral spreading could damage the fiber optic cable and conduit. The impact is considered less-than significant because damage to the system will not have an adverse physical effect on humans or the environment.

Impact G&S-2

Most of the proposed project route is located in gently sloping and stable terrain. However, in some areas, installation of cable and conduit could require excavation into steep slopes, some of which are subject to willow mass movement (i.e., landsliding). In such areas, runoff water from upslope of the trench could percolate into the trench, saturate the soil, and increase soil-pore water pressures in a localized area. Such a condition could increase the potential for a willow mass movement. With implementation of the following mitigation measure, this impact would be reduced to a less-than-significant level.

Mitigation G&S-2

EPGN shall implement the following measures to ensure that soil stability is protected during and after project construction:

- The areas of existing and potential instability shall be avoided to the extent practicable.
- A geotechnical analysis shall be conducted by EPGN in areas where the proposed system must pass through a potentially unstable area. The geotechnical analysis may recommend that the cable be rerouted, bored, or trenched beneath the failure plane of the unstable area. Manholes/handholes shall not be constructed in these areas.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Some portions of the proposed project route pass through areas of soils that are considered expansive by the Uniform Building Code and by the U.S. Natural Resources Conservation Service (NRCS). If cable and conduit installation are not properly engineered in these areas, seasonal soil expansion and contraction could damage the cable and conduit. This impact is considered less-than significant because proper engineering and construction techniques will avoid or eliminate this hazard and because any damage that does occur will not have an adverse physical effect on humans or the environment.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No septic tanks or alternative wastewater disposal systems will be installed as part of the proposed system. Therefore, no impacts will occur.

OFF-ROW

a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault?

Twentynine Palms Regeneration Station Site

Linn Regeneration Station Site

Apple Valley Regeneration Station Site

El Mirage Regeneration Station Site

All of the proposed regeneration station sites except Blythe and Rice are located within the Alquist-Priolo earthquake fault zones. These zones are identified to prevent the construction of buildings used for human occupancy on the surface trace of an active fault; such structures must be set back approximately 50 feet from the fault trace. Additionally, risks to individuals are reduced because the regeneration stations are not staffed and are visited only occasionally for short periods. Therefore, the proposed project will result in no impacts due to fault rupture because the regeneration stations are not located directly over mapped surface traces of active faults.

(ii) Strong seismic ground shaking?

All Regeneration Stations

USGS seismic hazard mapping indicates that peak ground accelerations at all proposed regeneration station sites are predicted to be less than 20 percent the force of gravity (less than 0.2 *g*). Local building ordinances require that buildings are bolted or anchored to the concrete pads, thus eliminating impacts due to seismic ground shaking. The proposed regeneration stations consist of uninhabited, prefabricated structures that meet applicable seismic design standards. For these reasons, the proposed project would have a less-than-significant impact with regard to ground shaking.

There will be no impacts at the proposed regeneration station sites due to seiche, tsunami, or volcanic eruption hazards because the project sites are not located adjacent to any lakes, oceans, or active volcanoes.

(iii) Seismic-related ground failure, including liquefaction?

Impact G&S-3

All Regeneration Stations

Seismically induced liquefaction could occur at the proposed regeneration station sites if soils are not compacted properly. Implementation of the following mitigation measure will reduce the potential for liquefaction to a less-than-significant level.

Mitigation G&S-3

EPGN shall implement the following measures to reduce the risk of liquefaction during project construction:

- The construction of the building pads must conform to the Uniform Building Code Seismic Zone Criteria. If required, EPGN shall have a state-certified Engineer certify the design, placement, and compaction of soil for the building pads. Engineered placement of fill material will mitigate impacts associated with seismic liquefaction of soil.
- Soils testing at the building pad sites shall be conducted to determine the geotechnical properties of the soils, and the building pads shall be designed accordingly.

(iv) Landslides?

All Regeneration Stations

Landslides are not expected to occur at any of the proposed regeneration station sites. None of the proposed project sites are located in areas of hilly or steep topography; therefore, there will be no impacts due to landslides.

b) Result in substantial soil erosion or the loss of topsoil?

Impact G&S-4

All Regeneration Stations

None of the proposed regeneration station sites are located in areas of hilly or steep topography that facilitate rapid runoff and subsequently present a moderate to high erosion hazard. However, the proposed regeneration station sites are located in areas where runoff and wind erosion impacts could occur due to dry soil conditions. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation G&S-4

EPGN shall implement the SWPPP prepared for the proposed project and required BMPs to collect or redirect stormwater runoff around the proposed project sites.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

All Regeneration Stations

None of the proposed regeneration station sites are located on geologic units or soils that are unstable or that would become unstable as a result of the proposed project. None of the proposed regeneration sites are located on expansive soils that could create substantial risks to life or property. The proposed regeneration stations would have no impact with regard to unstable or expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

All Regeneration Stations

The proposed regeneration stations will be unstaffed; therefore, no sewage or septic facilities are included in the project design. The proposed regeneration stations would have no impact on septic tanks or wastewater disposal.

4.8 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal involve:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

RIVERSIDE COUNTY

The Riverside County segment of the proposed project route is 220,189 feet long, beginning in Blythe, near the Arizona border, and ending in Rice Valley. The population of Blythe is 21,500 people. The

population of Riverside County is 1,504,820 people. The topography of the proposed project route ranges from nearly level floodplains to rounded foothills dissected by many short drainages.

SAN BERNARDINO COUNTY

The San Bernardino County segment of the proposed project route is 174,695 feet long, beginning near Rice Valley and ending approximately 25 miles west of Victorville in El Mirage. About 95 percent of the land within San Bernardino County is desert and includes a substantial portion of the Mojave Desert.

LOS ANGELES COUNTY

The Los Angeles County segment of the proposed system is 106,494 feet long, beginning in El Mirage and ending in the city of Los Angeles. This section of the route ranges from sparsely populated, nearly level floodplains to highly populated suburban terrain.

ENVIRONMENTAL IMPACTS

ON-ROW

a) Create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-1

The proposed project will not require long-term storage, treatment, disposal, or transport of hazardous materials; however, small quantities of hazardous materials will be stored, used, and handled during construction. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, oils, lubricants, solvents) required to operate the construction equipment. These materials could be released in accidental spills.

The impact of these hazardous materials is considered less-than significant with implementation of the following mitigation measures. The SWPPP prepared for the proposed project, which includes methods to protect water quality in response to emergency spills, shall be strictly followed (see Appendix D).

Subsurface hazardous materials may be encountered during construction. The construction team may encounter unexpected materials during construction that may be considered hazardous wastes once they are exposed. Federal, state, and local regulations establish procedures for proper handling and disposal. EPGN's contractors shall be trained in the handling of such materials before construction begins.

Mitigation HAZ-1

EPGN shall implement the following measures as part of the construction mitigation strategy for the proposed project.

- The construction contractor shall ensure proper labeling, storage, handling, and use of hazardous materials in accordance with BMPs and the Occupational Safety and Health Administration's (OSHA's) HAZWOPER requirements.

- The construction contractor shall ensure that employees are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet (MSDS).
- The construction contractor shall ensure that a proper spill kit is accessible at each construction site.
- Any small quantities of hazardous materials stored temporarily in staging areas shall be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials shall be stored separately as appropriate.
- To avoid unexpected releases of hazardous materials, the construction contractor team shall include individuals trained in accordance with OSHA's HAZWOPER requirements.
- The construction team shall have a written plan outlining how to respond if hazardous materials are unexpectedly encountered. The plan shall specify identification, handling, reporting, and disposal of hazardous materials.
- All hazardous waste materials removed during construction, to the extent necessary to ensure that the area can be safely traversed, shall be handled and disposed of by a licensed hauler at an appropriately licensed and permitted disposal or recycling facility.
- EPGN shall require in its contracts that contractors meet federal, state, and local requirements.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The proposed project will generate no hazardous emissions. Emissions would be limited to emissions from construction equipment. No project-related hazardous emissions will occur, and no acutely hazardous materials, substances or waste will be used or generated within 0.25 mile of an existing or proposed school.

All institutional controls governing the storage, transportation, use, handling, and disposal of hazardous materials will be followed by personnel during construction of the proposed project. Therefore, the proposed project will have no impacts with regard to generation of hazardous emissions.

d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A Phase I Environmental Site Assessment was conducted to locate areas along the proposed project route that may be viewed as potential areas of hazardous materials contamination or locations where it is permitted to perform various hazardous waste activities. The Phase I Environmental Site Assessment consisted of a review of sites located within 1/8 mile of the on-ROW and off-ROW facilities that are listed in selected regulatory agency databases. A visual inspection of the ROW was also conducted.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated or remediated. Contaminated sites can be expected along some portions of the proposed project route, particularly in highly urbanized areas. The EPA, Cal-EPA, RWQCBs, and counties maintain databases listing known contaminated sites. The databases include information on leaking underground storage tanks (LUST); hazardous waste generators; treatment, storage, and disposal facilities; sites known to have contaminated groundwater; and sites currently undergoing remediation or corrective action.

The ROW passes through the National Priority List (NPL) sites described as San Fernando Valley Wellfield Areas one through four. These are areas of the San Fernando Valley Groundwater Basin that are a natural underground reservoir and a source of drinking water that has been contaminated with trichloroethylene (TCE) and tetrachlorothene (PCE). Installation of the proposed project facilities will involve deep trenches and therefore will not encounter the groundwater basin, nor will it contribute to the existing contamination of the reservoir.

The ROW also passes through two sites listed on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database. This database includes sites that are either proposed for inclusion on, or are already included on, the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL. Both of these sites have groundwater contamination. The proposed project will not interfere with or affect these sites.

The ROW passes by approximately 46 active LUST sites. These sites have been identified as contaminating groundwater and/or soil and are undergoing preliminary assessments, remedial activities, or monitoring programs. None of these LUST sites are within the proposed ROW. Installation of the proposed cable and conduit system will not encounter or contribute to the existing contamination at these sites.

This impact is considered less-than significant because no listed hazardous materials sites will be affected by construction and operation of the project.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The ROW does not traverse areas subject to an airport land use plan or public airports. No impact will result.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

As discussed in Section 2 (Project Description), the proposed project involves the installation of a telecommunications system along existing ROWs. No resultant structures will impair airport operations or endanger other land uses. The proposed project will not result in a safety hazard for people working or residing in the surrounding area. No trenches or holes will be left open overnight, and no equipment or construction materials will be left accessible to the public once construction activities cease for the day. As a result, the proposed project will have no impact.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Installation of cable and conduit along the proposed route will involve the operation of heavy machinery. Emergency response times may be affected in areas where the proposed route is adjacent to or within road ROWs. Emergency access will be regulated as a condition of road encroachment permits from the applicable regulatory agencies. Also, EPGN will adopt a traffic control plan as part of the construction mitigation strategy of the proposed project to further reduce impacts on traffic and emergency response vehicles and programs to less-than-significant levels.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Installation of the proposed cable and conduit will not expose people or structures to a significant risk of loss, injury, or death attributable to wildland fires. This impact is considered less than significant.

OFF-ROW

a) Create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-2

All Regeneration Stations

The proposed project would require long-term storage, treatment, disposal, or transport of hazardous materials because approximately 1,600 gallons of diesel fuel will be stored at each proposed regeneration station to support the backup generators. Small quantities of hazardous materials will also be stored, used, and handled during construction. Hazardous materials associated with the construction phase of the proposed project would be limited to those substances typically associated with construction equipment, such as gasoline and diesel fuel, engine oil, and hydraulic fluids. These materials may be released in accidental spills. The impacts of hazardous substances occurring at the proposed regeneration sites are considered less than significant with implementation of the following mitigation measure:

Mitigation HAZ-2

EPGN shall implement the following measures to reduce the risk of hazardous material spills:

- A SWPPP shall be prepared specific to each proposed regeneration station and shall be strictly followed.
- A Spill Prevention, Countermeasure, and Control Plan (SPCC) shall be prepared for the proposed regeneration stations and shall be strictly followed. The SPCC shall be included as part of the approved SWPPP.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

All Regeneration Stations

Emissions at the proposed regeneration sites would be limited to air emissions from construction equipment and a backup diesel generator that would be used only during power outages. During normal project operations, hazardous emissions will not occur, and no acutely hazardous materials, substances, or waste will be used or generated within 0.25 mile of an existing or proposed school. Therefore, the proposed project will have no impact with regard to generation of hazardous emissions.

d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A search of regulatory databases was conducted to locate areas on or adjacent to the proposed regeneration station sites that may be viewed as potential areas of hazardous materials contamination or locations where it is permitted to perform various hazardous waste activities.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated or remediated. Contaminated sites can be expected along some portions of the proposed project route, particularly in highly urbanized areas. The EPA and Cal-EPA maintain databases listing known contaminated sites. The databases include information on LUSTs; hazardous waste generators; treatment, storage, and disposal facilities; sites known to have contaminated groundwater; and sites currently undergoing remediation or corrective action.

The Phase I site investigation concluded that the proposed regeneration stations would not be located on any sites known to be contaminated or known to have hazardous conditions. No impact resulting from hazards will occur at these sites.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

None of the proposed regeneration station sites are located within areas subject to an airport use plan or within 2 miles of a public airport. No impact will result.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

All Regeneration Stations

None of the regeneration stations are located within close proximity to a private airstrip or airport. No impact will result.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

All Regeneration Stations

The various counties in which individual project sites are located will regulate emergency access to those sites. The proposed regeneration station sites will result in no impact on emergency access and a less-than-significant impact on access to nearby parcels.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Fire hazards are a known concern in the areas of the proposed regeneration station sites. Wildfires are occasionally lighted as a result of seasonal conditions and human and environmental factors. Fire hazards associated with the proposed project will be reduced to a less-than-significant level through preparation and implementation of a fire prevention plan. For example, fire hazards associated with heavy equipment operations will be reduced by completely clearing all fuels and flammable materials in a 10-foot-wide area around the perimeter of the project site before construction. This impact is considered less-than significant.

4.9 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
e) Otherwise substantially degrade water quality?	☐	☒	☐	☐
f) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
i) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

The proposed project route originates at the California-Arizona border in Riverside County, proceeds west through San Bernardino and Los Angeles Counties, and terminates in the City of Los Angeles. The proposed system traverses numerous streams and water bodies. Major water bodies that the system traverses include:

- The Colorado River at the Arizona-California border;
- The Colorado River Aqueduct, which the proposed route traverses numerous times; and
- The Mojave River, which was dry during the field visits.

In addition to these major water bodies, the proposed route also traverses several other surface water bodies that are not classified as major streams. Included in this classification are:

- Several agricultural siphons, canals, and ditches, some of which are associated with the Colorado River Aqueduct;
- Seasonal wetlands and streams, creeks, and washes; and
- Many dry washes, dry lakebeds, and arroyos crossed by the route as it continues through the desert areas.

OFF-ROW

Blythe Regeneration Station Site

The proposed Blythe regeneration station site is located in a Zone C flood area, as designated by the Federal Emergency Management Agency (FEMA). Flood Zone C is defined as areas outside of the 500-year floodplain and is, therefore, considered to be an area of minimal flooding in which no flood insurance is needed. The nearest surface water body to the proposed station site is the Colorado River, approximately 3 miles to the west. Due to climatic conditions, soils in the area dry out rapidly and are subject to erosion from runoff. However, due to the flatness of the terrain, erosion from rapid runoff does not normally occur.

Rice Regeneration Station Site

The proposed Rice regeneration station site is located in a Zone C flood area, as designated by FEMA. Flood Zone C is defined as areas outside of the 500-year flood plain and is, therefore, considered to be an area of minimal flooding in which no flood insurance is needed. The nearest surface water body is the Colorado River Aqueduct, approximately 500 feet north of the proposed site. The aqueduct is flow controlled and a series of levees ensures that the proposed station site is not located in a flood-inundated zone. Although the soils at the proposed site are prone to erosion, erosion from rapid runoff does not normally occur due to the relatively flat terrain at and near the proposed site.

Twentynine Palms Regeneration Station Site

The proposed Twentynine Palms regeneration station site is located in a Zone C flood area, as designated by FEMA. As such, the area is considered to be an area of minimal flooding and no flood insurance is needed. The nearest surface water body to the proposed site, Dale Lake, is located approximately 2 miles to the northeast.

Apple Valley Regeneration Station Site

The proposed Apple Valley regeneration station is not located within the flood inundation zone of the Mohave River for a 500-year storm event. The site is located in a Zone C flood area, as designated by FEMA. As such, it is considered to be an area of minimal flooding and no flood insurance is needed.

The nearest surface water body is the Mojave River, approximately 1,000 feet west of the proposed site. Although the soils at the proposed station site are prone to erosion, erosion from rapid runoff does not normally occur due to the relatively flat terrain at and near the site.

El Mirage Regeneration Station Site

The proposed El Mirage regeneration station site is located in a Zone C flood area, as designated by FEMA. As such, it is considered to be an area of minimal flooding and no flood insurance is needed. The nearest surface water body is El Mirage Lake, approximately 5 miles north of the proposed site. Although the soils at the proposed station site are prone to erosion, erosion from rapid runoff does not normally occur due to the relatively flat terrain at and near the proposed site.

ENVIRONMENTAL IMPACTS

ON-ROW

Operation and maintenance activities for the proposed project are expected to be minor because access points already exist and substantial disturbance of land or vegetation will not be required. Operation and maintenance activities will follow the same guidelines and restrictions as construction activities; therefore, no effect on hydrology and water quality is anticipated from project operation and maintenance.

Would the project:

a) Violate any water quality standards or waste discharge requirements?

The proposed route will not violate any water quality standards or waste discharge requirements (WDRs). EPGN will be required to obtain a General Stormwater Discharge Permit and Section 401 certification or waiver from the appropriate RWQCBs for the construction of the proposed project facilities. Proposed system construction will not require in-channel work in any streams or drainage channels. At most stream crossings, EPGN will either attach the conduits to an existing bridge or bore under the stream.

There is potential for surface runoff to transport upland sidecast trench spoils into streams, which could result in temporary increases in turbidity and sedimentation in watercourses downstream of the project route. Temporary increases in turbidity or sedimentation could be adverse if the rate of sediment generation exceeds the rate of sediment transport in a stream. Therefore, upland trenching spoils generated during construction will be stored on the project route for a short time (generally less than one day). To reduce to a less-than-significant level the transport of sediment to channels, EPGN shall ensure

that all trenches are backfilled at the end of each workday. Where backfilling the trench is not feasible, proper erosion control measures shall be established to eliminate or reduce to a less-than-significant level transport of sediments to channels as described in the SWPPP (see Appendix D). The SWPPP, intended primarily as an erosion control plan for this project, has been prepared and will be implemented according to RWQCB guidelines. EPGN shall implement the erosion control measures identified in the SWPPP, as necessary, to reduce to a less-than-significant level transport of sediments to watercourses. As a result, the proposed project is considered to have a less-than-significant impact with regard to water quality standards or WDRs.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The proposed project consists of the installation of cable and conduits through various means. Depth of the conduits typically will not exceed 48 inches, except under special circumstances such as when boring under rivers. A small area of disturbed surface soils will be compacted as a result of the installation activities for the proposed project. This soil compaction will have no impact on ground water supplies, nor will it interfere with groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The proposed project has been designed so that no in-channel work in sensitive water bodies (i.e., water bodies supporting critical habitat or species listed or proposed for listing) will occur during construction. The proposed project will not alter existing drainage patterns through the alteration of a stream, river course, or upland areas because the ROW will be regraded to preconstruction contours. In all cases, the conduits either will be installed on a bridge or other existing river or stream crossing structure, or will be bored under flowing watercourses. No impact will occur because the proposed project has been designed to avoid this impact.

d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The proposed project will not create or contribute runoff water to drainage systems. No impact will result.

e) Otherwise substantially degrade water quality?

Impact HY-1

As mitigation built into the construction approach, EPGN could install the system under sensitive, flowing streams by boring under the streams. During the boring operation, bentonite is used to lubricate the bore and help remove cuttings from the borehole. The bentonite mixture can seep to the surface within a stream channel. Seepage could happen if bores encounter fractures in the underlying rock and bentonite pressures are great enough to allow the material to surface. This event is known as a frac-out. Implementation of the following mitigation measure will reduce this impact to a less-than-significant level.

Mitigation HY-1

Several measures are proposed by EPGN (See Chapter 2) and are included in the SWPPP to reduce to a less-than-significant level the potential for bentonite seeps, including requiring boring crews to strictly monitor drilling fluid pressures; retaining containment equipment on site; monitoring waters downstream of the crossing sites to quickly identify any seep; immediately stopping work if a seep into a stream is detected; immediately implementing containment measures; adhering to agency reporting requirements; and identifying responsible parties. Containment equipment shall include staked and floating silt barriers to isolate frac-out locations from flowing water.

f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The proposed route does not include the construction or placement of housing within floodplains. No impact will result.

g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The installation of cable and conduits for this proposed project will not affect 100-year flood zone capacity because the fiber optic cable will be installed approximately 4 feet below ground surface (bgs). Construction-related effects on flood flows will be reduced to a less-than-significant level by conducting construction activities during the dry season and by avoiding in-water trenching in sensitive streams to install the conduits. Therefore, there will be less-than-significant impact with regard to 100-year flood hazard areas or flood flows.

h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The proposed system will not affect any surface water flows or increase the risk of flooding. No impact will result.

i) Inundation by seiche, tsunami, or mudflow?

The proposed system will not affect the potential for inundation by seiche, tsunami, or mudflow. No impact will result.

OFF-ROW

a) Violate any water quality standards or waste discharge requirements?

All Regeneration Stations

The proposed project will not violate any water quality standards or WDRs. EPGN will be required to obtain a General Stormwater Discharge permit and Section 401 certification or waiver from the appropriate RWQCBs for construction of the proposed regeneration station sites. These applications must include a SWPPP, which will be prepared according to RWQCB guidelines to reduced to a less-than-significant level construction-related erosion and sedimentation and to reduce to a less-than-significant level discharge of oils or other contaminants. Therefore, this impact is considered to be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?)

All Regeneration Stations

The proposed project will not affect groundwater recharge at any of the proposed regeneration station sites due to the very small size of the developed, impermeable area associated with construction of the concrete building pads. The constructed impermeable surfaces represent a minor portion of the total groundwater recharge area. Trenching, which will be necessary to bring the conduits or utilities to the regeneration stations, will intercept only near-surface groundwater (up to 4 feet bgs) and will not affect deeper aquifers. Trench dewatering may be necessary where the proposed construction activities intersect groundwater. Dewatering could decrease water levels in the immediate area surrounding the trench. However, trench dewatering would be a temporary, short-duration activity with less-than-significant impacts on aquifer recharge and the groundwater table. The proposed regeneration stations do not require groundwater withdrawals for operation.

Although blasting is not currently anticipated for the proposed regeneration station sites, blasting during construction could adversely affect water wells in the project vicinity. Where groundwater supplies are relatively shallow, temporary and localized decreases in groundwater quality and recharge rates could result due to blasting.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

All Regeneration Stations

Construction at each of the proposed regeneration station sites will slightly increase the amount of impervious area with the development of concrete building pads and gravel surfacing. The very small size of the building pads (up to approximately 30 feet by 12 feet) will not substantially increase the rate or amount of surface runoff. Grading at each project site will also be minimal, primarily confined to the vicinity of the building pads. All other areas at the proposed station sites will be graded to maintain existing drainage patterns, resulting in no change to on-site or off-site runoff. No impact will result.

d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

All Regeneration Stations

Construction and operation of the proposed regeneration stations will not create or contribute to runoff water that would exceed the capacity of existing stormwater drainage systems. No polluted runoff will be generated.

e) Otherwise substantially degrade water quality?

Impact HY-2

All Regeneration Stations

Stormwater runoff during construction may affect the quality of surface waters. The greatest potential for impact results from grading and other ground-disturbing activities associated with construction. During precipitation events, erosion and transport of sediments may occur from the construction sites, causing an increase in turbidity or sedimentation in receiving water bodies. Such impacts are typically temporary and are associated only with the construction period. EPGN will not perform construction activities in channels or adjacent to other water bodies for the proposed regeneration stations. This impact is considered less than significant with implementation of the following mitigation measure.

Mitigation HY-2

To ensure that stormwater runoff does not adversely affect the quality of receiving surface waters, thereby increasing turbidity or causing sedimentation, EPGN's SWPPP and associated BMPs shall be employed to prevent erosion and contain sediments on site during construction. These BMPs shall include installation and maintenance of sediment barriers (e.g., silt fence, sand bags, straw bales) and containment structures (e.g., sediment traps, sediment basins) between construction sites and drainage features, including streams, gullies, and canals, at all times during construction.

Impact HY-3

All Regeneration Stations

Refueling of vehicles and storage of fuel, oil, lubricants, and other fluids near surface waters may create a potential for contamination due to accidental release. If a spill should occur at any of the proposed regeneration station sites, hazardous fluids may enter a water body during subsequent precipitation events or through leaching to groundwater. Aquatic organisms in flowing surface water bodies can experience acute and chronic toxic effects from a spill. Contamination of the aquifer and nearby wells may occur. This impact is considered less than significant with implementation of the following mitigation measure.

Mitigation HY-3

EPGN shall require that the construction contractor implement EPGN's SPCC Plan to ensure protection of surface and groundwater resources. EPGN's SPCC Plan contains specific measures for restricting vehicle-refueling areas to 150 feet from any streambank or wetland. This restriction should be expanded to include canals or other drainage features. The SPCC Plan provides measures for containing, confining, and clean-up response to accidental spills and releases.

f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

All Regeneration Stations

The proposed project will not involve construction of housing within a 100-year flood hazard area. The proposed regeneration stations will not be staffed during operation. Visits to the regeneration stations will be of short duration and for maintenance purposes only. No impact will result.

g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Flooding hazard for the proposed regeneration station sites is either designated as minimal (Zone C) or not designated by FEMA. The small footprints of the building pad (up to 30 feet by 12 feet) at each of these proposed station sites and the relatively shallow flooding depths are not expected to impede or redirect flood flows. Therefore, no impacts will result.

h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

All Regeneration Stations

All proposed regeneration station sites are designated as zones of minimal flooding. Because these proposed sites will not be staffed and the anticipated flood levels are of a relatively shallow depth, no impacts are associated with significant risk of injury or death to personnel during operation of the project.

i) Inundation by seiche, tsunami, or mudflow?

All Regeneration Stations

No impacts relating to seiche, tsunami, or mudflow will result from construction and operation of the proposed regeneration station sites because the proposed sites are not located near lakes or oceans and are in relatively flat topography.

4.10 LAND USE PLANNING

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with applicable environmental plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Land use planning is the province of local government in California. Each city and county is required to adopt a general plan that establishes goals and policies for long-term development, protection from environmental hazards, and conservation of identified natural resources. Typically, a general plan lays out the pattern of future residential, commercial, industrial, agricultural, open space, and recreational land uses within a community. Zoning, the primary means of implementing these plans, identifies the specific types of land uses that may be allowed on a given site. Zoning also establishes the standards that will be imposed on new development.

Local approaches to zoning vary considerably around the state. In general, zoning requirements are more restrictive along the coast than elsewhere. Zoning requirements are generally less restrictive in unincorporated portions of counties than in larger cities.

The proposed system will be installed within existing road ROWs. The proposed system is described below in order of county segments from west to east. The proposed project ROW traverses numerous cities, three counties (Riverside, San Bernardino, Los Angeles), and lands managed by the BLM. Each of these jurisdictions has its own unique land use and zoning regulations, and EPGN is in the process of identifying those land use and zoning requirements applicable to the proposed project and obtaining the necessary permits.

Riverside County

The Riverside County segment of the proposed project route begins at the Arizona/California border. Crossing over the Colorado River near Blythe, the proposed route proceeds approximately 0.5 mile to the west before turning northward to connect with the Midland Road ROW. Land use varies from open space and agriculture reserve to tourist commercial due to the close proximity of the Colorado River and

surrounding desert resource areas. Blythe takes great strides in protecting and enhancing the rural residential quality of the surrounding area.

Elevation of the project remains relatively level from the California/Arizona border to the northward intersection of SR 62, near Rice in San Bernardino County. Much of the region is a large, elongated valley skirting along mountainous areas with the Salton Sea at the lowest point.

The BLM land management plan that applies to the proposed project is the California Desert Conservation Area (CDCA). This segment lies within the Colorado Desert portion of California, which is part of a much larger region known as the Sonoran Desert. The CDCA serves as a land use guide for management of public lands and has designated utility corridors for projects within CDCA. Approximately 272 miles of the proposed ROW, beginning in Blythe at the Arizona/California border and ending approximately 50 miles west of Victorville, is within CDCA but does not follow one of the 16 utility corridors designated in the CDCA. For the proposed project to comply with that land use plan, a plan amendment must be prepared. See Table 4.10-1 for other BLM land use activities that occur along the project ROW or in close proximity (U.S. Department of the Interior, 1980).

San Bernardino County

The San Bernardino County segment of the proposed system begins near Rice, about 45 miles northwest of Blythe at the junction of Midland Road and SR 62. The proposed ROW continues west within the SR 62 ROW and crosses the Colorado Aqueduct at four locations. San Bernadino County lies within the western portion of the Mojave Desert. The ROW turns northward at Twentynine Palms intersecting the SR 247 ROW for approximately 30 miles until reaching SR 18 west of Lucerne Valley. Traveling toward Victorville, the ROW runs parallel to SR 395 until reaching SR 18 again, heading toward Palmdale in Los Angeles County.

Land use in the vicinity of the proposed ROW consists primarily of rural residential development, rural and highway commercial, single and multiple residential, light industrial, neighborhood commercial, a floodway zone (Rabbit Dry Lake), and a resource conservation area. Resource conservation areas include limited grazing, passive public and private recreation areas, rural residences and vacation cabins, watershed, and wildlife and open space uses (i.e., high scenic value). Residential communities along the proposed ROW include Twentynine Palms, Joshua Tree, Landers, Lucerne Valley, Apple Valley, Hesperia, and Victorville. The ROW crosses the Mojave River.

San Bernardino County comprises three regions – the Valley, Mountain, and Desert regions. The EPGN proposed ROW lies in the Desert region, which is divided into Regional Statistical Areas (RSAs). The proposed ROW proceeds through RSA 32b Victor Valley (including Victorville, Hesperia, Apple Valley, and Lucerne Valley) and through RSA 33 Morongo Basin (including Morongo Valley, Yucca Valley, Joshua Tree, and Twentynine Palms). Rice is the only site along the proposed ROW in RSA 34 Lower Colorado River. These RSAs fall into the land use designations previously mentioned (San Bernardino County, 1989).

The desert region has historically provided a multitude of agricultural uses, principally along the Mojave River, and represents the second largest industry (measured by dollar production value) in San Bernardino County. Many naturally occurring mineral resources have been identified in the county and the proposed ROW crosses several mineral resource areas (see Table 4.10-1). Although the proposed ROW traverses areas with naturally occurring mineral resources, it does not traverse any mineral extraction areas.

Table 4.10-1. BLM Land Use

BLM LAND USE	Riverside County	San Bernardino County	Los Angeles County
Land Use Activities			
Class I – Intensive Use			
Class M - Moderate Use	**X** (Primarily Class M)	**X** (Eastern Section)	
Class L - Limited Use	**O** (Borders Class L)	**O**	
Class C - Controlled Use			
Unclassified Land	**O** (Small Section)	**X**	
Areas of Critical Environmental Concern		**O** (Pattons Iron Mountain)	
Planned Management Areas for Fish & Wildlife		O	
BLM Lands NOT within Desert Tortoise Habitat Category I and II	**X** (Primarily)		
Desert Tortoise Category I			
Desert Tortoise Category II			
Sensitive, Rare Threatened & Endangered Wildlife	**X** (Edge of Eagle and Falcon foraging Range)	**X** (Eagle and Falcon potential foraging Range)	**X** (Eagle and Falcon potential foraging Range)
Rare, Threatened or Endangered Wildlife			
Unusual Plant Assemblages		**X**	
Wilderness (PWA - Preliminary Wilderness Area)	**O** (Within Close Proximity)	**X** (PWA)	
Wild Horse and Burro Management Area			
Livstock Grazing Allotments	Intersects Rice Valley Proposed Ephemeral Livestock Grazing Area		
Motorized Vehicle Access			
"Limited to Existing Routes of Travel"	**X**	**X**	
Economic Mineral Resources	**X** (Gypsum, Limestone)		
Potential for Locatable Minerals	**X**	**O**	**X**
Potential for Leaseable Minerals	**X**	**X**	**X**
Potential for Saleable Minerals	**X** (Sand, Gravel)	**X** (Sand, Gravel)	**O**
Potential for Energy Georesources	**X** (Oil, Gas)	**X** (Oil, Gas)	**X**
Energy Production and Utility Corridors	**X**	**X**	**X**
X = Proposed Project Route within Use Area Boundary **O** = Proposed Project Route in Close Proximity to the Use Area			

Los Angeles County

The Los Angeles County segment of the proposed ROW begins near the intersect of El Mirage Road and East Avenue P and continues in a westerly direction along East Palmdale into the city of Palmdale before turning south on SR 138. The proposed route proceeds west through Soledad Canyon and the City of Santa Clarita and into San Fernando, moving southeast and primarily running parallel to Glenoaks Boulevard into the city of Glendale. The route then proceeds south along numerous roads into downtown Los Angeles, terminating at Wilshire Boulevard and South Grand Avenue.

Land use in the vicinity of the proposed ROW consists primarily of open space, rural communities, non-urban residential areas, moving into low/medium-density residential areas, and finally into urban areas with dense residential and commercial areas (County of Los Angeles, 1991). Communities along the proposed ROW include Palmdale, Santa Clarita, San Fernando, Glendale, and Los Angeles. The proposed project ROW crosses Big Rock Wash, Rock Creek, Little Rock Wash, California Aqueduct, Santa Clara River and travels through the Transverse Ranges (4,500 feet elevation) at the western extent of the San Gabriel Mountains. In Palmdale, the proposed ROW goes through Special Policy Area 14 (Eastside Quarry, approximately 4,000 feet south of the route) (City of Palmdale, 1993).

The county of Los Angeles has a rich and diverse natural environment whose temperate, Mediterranean climate and varied landscape also support diverse biological resources. Part of this complex natural environment includes liabilities. The land is subject to seismic activity, and peculiarities in terrain make the county susceptible to air pollution. The arid climate results in potential water shortages and, in the hillsides, wildland fire dangers. Finally, the proximity of plains and rugged mountains coupled with heavy seasonal rainfall create the threat of flooding. Despite such liabilities, a 1980 national survey ranked the county in the top third of 90 major metropolitan areas in terms of its quality of life.

Nearly the entire region has been built since 1900, and more than 70 percent of urban development has occurred since 1940. The distribution of development differs from that of most other large American urban areas in that the county's suburbs tend to be more intensively developed, while inner city areas are relatively less intensively developed. Single-family housing has been characteristic of the Los Angeles urban form, but its low profile is punctuated by numerous high-intensity centers, a growing number of which contain clusters of high-rise buildings (Los Angeles County, 1990).

Los Angeles has designated five locations in the Santa Clarita Valley as Significant Ecological Areas (SEAs). These are ecologically fragile or important land and water areas that are valuable as plant or animal communities. The Santa Clara River is an SEA and occurs within the city boundaries of Santa Clarita (City of Santa Clarita, 1991). The conduits for the proposed project will be installed underground along a linear route located within state, county, and local ROWs along existing roads. It will be attached to bridges for water crossings.

OFF-ROW

Blythe Regeneration Station Site, Riverside County

The area proposed as the site for the Blythe regeneration station is north of the town of Blythe at the southeast corner of Lovekin Boulevard and the railroad tracks. The site is 1 acre in size and is privately owned.

The current zoning designation of the proposed site is RR (Rural Residential). This designation serves as an intermediate land use, buffering agricultural lands from urban residential development. The RR designation is intended to preclude premature expansion of urban development. The land 500 feet north of

the northern parcel boundary is zoned NA (Natural Assets). If proposed construction activities encroach upon this property, a building permit will be required before construction activities can begin at this location.

Rice Regeneration Station Site, San Bernardino County

The proposed area for the Rice regeneration station is approximately 0.2 mile south of the intersection of SR 62 and Midland Road. The proposed site location is on both the east and west sides of Midland Road. The site is privately owned.

The current zoning designation of the proposed site is RC (Resources Conservation). This designation encourages limited rural development that maximizes preservation of open space, watershed, and wildlife habitat areas. Open space and non-agricultural activities are the primary uses of the land, but agriculture and compatible uses may co-exist. A Conditional Use Permit (CUP) will be required before construction activities can begin at this location.

Rice is part of the Lower Colorado River Sub-Regional Planning (RSA 34) Area (San Bernardino County, 1989). This sub-region is sparsely developed; the area is predominantly a resort, recreational, and retirement community with population increases during summer months and holidays. The lack of infrastructure facilities in the area is the major constraint to development.

Twentynine Palms Regeneration Station Site, San Bernardino County

The area proposed for the Twentynine Palms regeneration station is approximately 2.75 miles east of the intersection of SR 62 and Chadwick Road. The parcel covers approximately 3 acres and is privately owned.

The current zoning designation of the proposed site is CT (Commercial Highway Tourist) (Twentynine Palms, 1987). This designation allows for services to the traveling public and also provides economic enhancement for the community. Uses such as hotels, motels, resorts, automobile service, restaurants and cafes, souvenir shops, RV parks, and entertainment facilities conducive to the region's constitution are desired in selected nodes along SR 62. Design of tourist facilities should capitalize on and promote the southwestern/adobe theme of the community. A CUP will be required before construction activities can begin at this location.

Linn Regeneration Station Site, San Bernardino County

The area proposed for the Linn regeneration station is north of Linn Road and west of Shawnee Trail. The Linn site covers approximately 5 acres and is privately owned.

The current zone designation of the proposed site is RL (Rural Living). This designation provides sites for rural residential uses, incidental agricultural uses, and similar compatible uses. The designation RL encourages appropriate rural development, where single-family residential development is the primary use in areas that are generally adjacent to urbanized centers. The existing land uses include limited agriculture, mining and quarrying, energy production operations, public and private recreation areas, rural residences and vacation cabins, watershed, and wildlife and open space uses. A CUP will be required before construction activities can begin at this location.

Apple Valley Regeneration Station, San Bernardino County

The area proposed for the Apple Valley regeneration station is located north of SR 18, west of Soledad Drive and south of Charparosa Drive. The 4-acre parcel is privately owned.

The current zone designation of the proposed site is RL (Rural Living). This designation provides sites for rural residential uses, incidental agricultural uses, and similar compatible uses. RL encourages appropriate rural development, where single-family residential development is the primary use in areas that are generally adjacent to urbanized centers. The existing land uses include limited agriculture, mining and quarrying, energy production operations, public and private recreation areas, rural residences and vacation cabins, watershed, and wildlife and open space uses. A CUP will be required before construction activities can begin at this location.

El Mirage Regeneration Station, Los Angeles County

The area proposed for the El Mirage regeneration station is on the south side of El Mirage Road, approximately 400 meters east of 240th Street East, in Los Angeles County. The parcel covers approximately 2.47 acres and is privately owned.

The current zoning designation of the proposed site is A1-1 (Light Agricultural). Permitted uses for an A-1 Zone are: (1) single-family residences and crops (field, tree, bush, berry, row and nursery stock), and (2) greenhouses and raising of animals such as cattle, horses, sheep, goats, poultry, birds, and earthworms. A CUP will be required before construction activities can begin at this location.

ENVIRONMENTAL IMPACTS

ON-ROW

Would the project:

a) Physically divide an established community?

The proposed project consists of the installation of conduits within existing, disturbed ROWs. Conduits will either be installed underground or attached to existing bridges. The proposed project will not create any structures or other features large enough or intrusive enough to divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact LU-1

The proposed project is not in conformance with the CDCA Plan. With implementation of the following mitigation measure, this impact will be reduced to a less-than-significant level.

Mitigation LU-1

For the proposed project to comply with the CDCA, a plan amendment must be adopted. The plan amendment prepared by EPGN and adopted by the BLM shall allow the proposed project route to be constructed along existing highways or disturbed ROWs in Riverside and San Bernardino Counties, instead of within CDCA-designated utility corridors. The plan amendment shall be specific for the proposed project and shall not establish an additional general utility corridor. The BLM has prepared a draft EA that analyzes the environmental effects of the proposed plan amendment and the application for a ROW grant to traverse BLM lands. The final EA and the decision to amend the CDCA are expected to occur in fall 2001.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The proposed project will not conflict with any applicable habitat conservation plan or natural community conservation plan.

OFF-ROW

a) Physically divide an established community?

All Regeneration Stations

Construction of the proposed regeneration stations will not physically divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

All Regeneration Stations

Construction of the proposed regeneration stations will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. However, the proposed Twentynine Palms regeneration station is located along SR 62 and tourist facilities that promote the southwestern/adobe theme of the community. EPGN shall work with the City of Twentynine Palms to ensure that all of the city's design requirements are met. This impact is considered less than significant.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

All Regeneration Stations

The proposed regeneration station sites will not conflict with any applicable habitat conservation plan or natural community conservation plan.

4.11 MINERAL RESOURCES

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Gold mining and oil production are the principal mineral extraction activities within the project study area. Sand and gravel deposits are also mined along portions of the proposed route. Such deposits are typically found in streambeds and valley bottoms.

EPGN will install cable and conduit within existing ROWs on the proposed route and will not undertake excavations that would be in violation of the California Surface Mining and Reclamation Act. Because project construction activities will take place within existing ROWs, the proposed project will not obstruct the recovery of mineral deposits to any greater extent than what currently exists.

OFF-ROW

The proposed regeneration station sites are not subject to any adopted energy plans. They are not located on areas of mineral resources.

ENVIRONMENTAL IMPACTS

ON-ROW

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The proposed project route is located within existing ROWs (i.e., pipelines, private, county, and state roads) that limit availability for surface mining. There will be no impacts on the availability of known, locally important mineral resources or recovery sites.

OFF-ROW

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

All Regeneration Stations

No impact will result from use of non-renewable resources during the construction and operation of the proposed project. The only non-renewable resources that will be used are diesel fuel by construction vehicles and the occasional operation of backup generators. Construction vehicles will operate only for a short period at each project site (i.e., 3 to 4 weeks), and a backup generator will operate only in the event of a power outage. The equipment used at the project site will be in good working order and will incorporate the best available control technology to reduce fuel usage. Long-term operations will use only minor amounts of fuel for maintenance vehicles and occasional generator operation.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

All Regeneration Stations

The proposed project set forth by EPGN will have no impact that would result in the loss of availability of a known mineral resource that would be of future value to the region or its residents. The proposed regeneration station sites were researched for known minerals and have no known mineral, aggregate, oil, gas, or geothermal resources. The regeneration station buildings at the sites encompass a small area and would not impede recovery or access to a valuable resource, if such resource should be discovered at any of the sites in the future.

4.12 NOISE

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Hospitals, rest homes, libraries, churches, educational facilities, transient lodging (including hotels, motels, and similar uses), and residences such as private homes are typically considered to be locations sensitive to noise (sensitive receptors). Special-status species are also considered to be noise sensitive in some cases. The number and type of noise-sensitive uses along the proposed system varies depending upon the degree of development in the area. In some areas, sensitive uses are located within 100 feet of the proposed project route. In other areas, the distance between the route and the nearest noise-sensitive use is several thousand feet. However, because the proposed route is primarily located within existing ROWs, any sensitive receptors are most likely already exposed to noise sources (i.e., roads).

Background noise levels along the proposed project route will also vary widely depending on the degree of development and general human activity in the area. For example, road ROWs will include transportation (e.g., traffic, aircraft, train, watercraft), mechanical equipment (e.g., air conditioning, mechanical equipment), and natural sources (e.g., wind, birds, crickets, frogs) of noise. Background

sound levels typically range from 45.5 dBA to 62.0 dBA (A-weighted decibels) within cities (City of Palmdale, 1993).

Cities and counties can adopt noise control requirements within their zoning ordinances or as separate ordinances. Noise ordinances serve as an enforcement mechanism for controlling noise. The level of specificity in noise ordinances used in California cities and counties varies widely. Noise ordinances often contain exemptions for construction activities, provided the construction occurs during the hours specified by affected local jurisdictions.

OFF-ROW

Most of the proposed regeneration station sites are located in rural areas with few sources of background noise. Low background noise levels of approximately 40 dBA are assumed to be present at the proposed sites. Background levels as low as 40 dBA are rarely found in developed areas, but they can be experienced in remote areas distant from freeways and other sources of human-made noise.

Blythe Regeneration Station Site

The proposed Blythe regeneration station site is located in Riverside County. The project site is located in a rural area with the nearest sensitive receptor located more than 0.5 miles from the proposed site. Railroad tracks are immediately adjacent to the site.

The City of Blythe General Plan (City of Blythe 1989) is intended as a guide to aid in planning future land uses and as a screening tool to evaluate projects that could affect sensitive noise receptors. Exhibit V-2 of the City of Blythe General Plan indicates that residential noise levels within 50 to 65 dB are normally acceptable, while industrial areas can be as high as 75dB.

Rice Regeneration Station Site

Twentynine Palms Regeneration Station Site

Apple Valley Regeneration Station Site

El Mirage Regeneration Station Site

The proposed Rice, Twentynine Palms, Apple Valley, and El Mirage regeneration station sites are located within San Bernardino County. Most of the possible regeneration sites are located in rural or open space areas with the nearest sensitive receptors being more than 0.5 mile from the site. Victorville 1 and El Mirage 4 are located adjacent to light industrial uses. Twentynine Palms 3, the Original Victorville, and Victorville 2 are all located adjacent to commercial land uses. Twentynine Palms 1 is located adjacent to both light industrial and residential uses. Linn 2 is located adjacent to residential uses.

Policy NO-1 of the San Bernardino County General Plan Noise Element (County of San Bernardino, 1999) states that industrial, commercial, or other land uses proposed for areas containing noise-sensitive land uses must not generate noise levels above those noted in Figure II-8 for Mobile Sources and Figure II-9, Hourly Noise Level Performance Standards. Figure II-8 limits noise levels to less than 60 dB for sensitive receptors. Figure II-9 limits noise levels to 55 dB L_{eq} and 75 dB L_{max} for 7 a.m. to 10 p.m. The noise level limit for non-sensitive receptors is 65 dB.

El Mirage Regeneration Station Site

The proposed El Mirage regeneration station site is located within Los Angeles County. The proposed El Mirage project site is in a rural area with the nearest sensitive receptors being located more than 0.5 mile away. Land use surrounding the proposed project site is identified as rural. The proposed Palmdale regeneration station sites are located in light industrial areas.

The Los Angeles County General Plan Noise Element (County of Los Angeles, 1993) allows for a multiplicity of governmental jurisdictions to control noise sources and implementing noise programs. The Los Angeles County Noise Control Plan focuses mainly on transportation-related noise, but also requires that areas that are presently quiet be protected from future noise impacts. The plan also encourages cities within the county to adopt noise ordinances and policies that are consistent throughout the county.

The individual city plans indicate that normally acceptable noise levels in areas with sensitive receptors are 60 dB, while in industrial areas, such as the regeneration facility sites in Palmdale, noise levels of up to 75 dB are normally acceptable.

ENVIRONMENTAL IMPACTS

ON-ROW

Impacts associated with increases of existing noise levels will be temporary and of short duration during construction of the proposed project route. Once the system is installed, no additional noise will be generated by the system. In the event of repairs or maintenance, additional construction noise would be generated. However, these events will be infrequent and of short duration.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise-generating activities associated with the proposed route are related to construction activities. Typical construction equipment to be used includes rubber-tired backhoes, tracked vehicles, tractors, and directional boring equipment. All construction activities will occur during daylight hours, except for possible limited nighttime boring activities in isolated areas.

Impact NO-1

The bulldozer is expected to be the loudest piece of equipment used at any construction site, and other extremely noisy equipment will likely not be used concurrently with the grader. Therefore, the assessment of the potential noise impacts associated with in-ground installation of conduits is based on a worst-case sound level of 85 dBA at 50 feet. Construction noise may substantially increase noise above background sound levels. However, construction within existing road ROWs will typically not be expected to generate noise that will be substantially greater than the noise generated by trains or automobiles. This impact is considered less –than significant because the following mitigation measures have been adopted by EPGN as part of the construction mitigation strategy for the proposed project.

Mitigation NO-1

- Construction activity along the route and at staging areas within 1,000 feet of residences shall be restricted to daytime hours (7:00 a.m. to 7:00 p.m.). No construction shall be performed within

3,000 feet of an occupied dwelling unit on Sundays, on legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. on other days.

- All equipment shall have sound-control devices no less effective than those provided on original equipment. All equipment shall have a muffled exhaust.
- Additional noise control measures shall be installed to reduce increases in ambient noise concentrations to sensitive receptors around the sites. Counties may require the submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design.

Implementation of these mitigation measures will reduce noise impacts to a less-than-significant level.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Directional boring and operation of heavy equipment may generate localized groundborne vibration and noise that could be perceptible at residences or other sensitive use areas close to the activity. Groundborne noise is noise radiated by vibrating ground and the structures supported by it. Because potential groundborne vibration and noise will be temporary and will occur only during daylight hours, groundborne vibration and noise impacts are considered less –than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impacts associated with increases in existing noise levels will be temporary and of short duration during construction of the proposed project route. Once the fiber optic cable system is installed, no additional noise will be generated by the system. The temporary increase in noise levels is considered less –than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The ROW does not pass within two miles of airports.

OFF-ROW

The proposed regeneration station sites will require heating and cooling equipment that will generate some noise at the property line. Measured noise levels provided by the manufacturer of these units are as follows:

Distance from Unit (Feet)	Sound Level (dBA)
5	66
10	61
20	56
30	53
40	51
50	50
60	49

The noise level at the property line will be less than 50 dBA when these units are running. Noise levels from these units will not exceed the county general plan recommended ambient levels from non-transportation sources of 50 to 60 dBA at residential receptors.

Impacts associated with increases in existing noise levels will be temporary and of short duration during construction of the proposed regeneration station sites. During normal operation, no additional noise will be generated by the regeneration stations, unless a power outage should occur. In the event of a power outage, backup generators at the station site will be operated. Operation of these generators will increase the ambient noise levels around the station sites. However, these events will be infrequent and of short duration.

At other proposed sites, the increase in ambient noise will be negligible due to the distance to the nearest receptors or because highway traffic noise will exceed generator noise. At Twentynine Palms, Linn, and Apple Valley, residential areas are adjacent to the proposed regeneration station sites and noise must be muffled to produce less than 65 dBA at the property line.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact NO-2

Proposed project sites that have sensitive receptors located within 350 feet of the proposed regeneration station that will be affected by increases of the ambient noise levels during the daytime and at night. The County General Plans for areas where these project sites are located recommend that ambient noise levels from non-transportation sources not exceed 50 to 60 dBA. It is estimated that noise levels will be 67 dBA at 300 feet from the outdoor generator units when all four units are operating.

Mitigation NO-2

With implementation of the following mitigation measure, noise levels will be reduced to a less-than-significant impact:

- As required by local counties through the land use permitting process, additional noise control measures must be installed to reduce an increase in ambient noise concentrations to sensitive receptors around the sites.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

All Regeneration Stations

Generation of groundborne vibration or noise is not expected at any of the proposed regeneration station sites.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

All Regeneration Stations

Increases in ambient noise from generator operation will only occur during power outages and will be temporary and short in duration.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

All Regeneration Stations

The operation of backup generators will increase ambient noise levels at the proposed regeneration station sites.

Impact NO-3

Proposed Regeneration Station sites that have sensitive receptors located within 350 feet of the proposed regeneration stations and will require mitigation of the temporary and periodic noise increases. With the implementation of Mitigation NO-2, this impact will be reduced to a less-than-significant level.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

All Regeneration Stations

The proposed regeneration station sites will be unmanned and therefore not expose workers or residences to excessive noise levels from airports.

4.13 POPULATION AND HOUSING

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Installation of the proposed system will not affect or generate additional population or affect or create the demand for new housing. Therefore, no discussion of the setting for population and housing is necessary.

OFF-ROW

The proposed regeneration station sites that constitute the EPGN project are located within various types of settings including urban, industrial, commercial, residential and rural. Table 4.13-1 presents population and housing characteristics in the counties (Riverside, San Bernardino, and Los Angeles) where the ancillary facilities will be located.

Riverside County Regeneration Site

There is one proposed regeneration site in Riverside County, and it is located in the City of Blythe. Blythe is located in the western portion of Riverside County close to the Arizona border in the Palo Verde Valley. The Colorado River is about 1.5 miles from Blythe's city limits. In 1998 the population was 21,050, with 2918 housing units and 3.02 persons per household. The vacancy rate was 4.2 percent. Temporary housing includes approximately 1,467 units. Median household income was $22,847 and unemployment stood at 6 percent. Per capita income was $11,443. The area around Blythe is mainly agricultural with tourism the main contributor to the economy because of Blythe's close proximity to the Colorado River.

Table 4.13-1. County Housing and Population Characteristics

Location	Population	Housing Units	Persons Per Household	Vacancy Rate %	Temporary Housing Units	Unemployment Rate %	Median Household Income $	Per capita Income $
County of Riverside	1,522,855	483,847	3.086	16.971	91,222	7.5	37,694	11,972
County of San Bernardino	1,689,281	598,234	3.165	14.491	111,503	6.3	36,977	14,005
County of Los Angeles	9,884,255	3,163,343	3.140	5.51	1,325,270	5.9	34,965	25,719

Source: CERES California County Information (1998)
County General Plans

San Bernardino County Regeneration Site

There are four proposed regeneration sites in San Bernardino County and they are located near the City of Twentynine Palms, the City of Victorville, and the City of Apple Valley. Twentynine Palms is located in the south central portion of San Bernardino County and within close proximity of Joshua Tree National Park. The Marine Corps Air Ground Combat Center is located in Twentynine Palms and is the city's primary economic strength. The population in 1998 was 14,850, with 4505 estimated housing units with an average of 2.61 persons per household. There were approximately 1428 vacant housing units or 4.7 percent. Temporary housing included approximately 2198. Median household income was $24,527, with an unemployment rate of 11.7 percent. Per capita was $10,892.

The City of Victorville is located in the High Desert area of San Bernardino County, approximately 97 miles northeast of Los Angeles. Victorville is accessible via Interstate 15 and Highway 395, linking the city with all other areas of Southern California. The population in 1998 was 57,211 with an estimated 19,689 housing units and an average of 2.88 persons per household. The vacancy rate stood at 17 percent. Temporary housing includes approximately 5513 units. Median household income was estimated at $35,597 in 1998. Per capita income was at $13,323. Employment in Victorville centers on the trade sector, accounting for approximately 24 percent of jobs. Unemployment stood at 10.4 percent.
The City of Apple Valley is located to the east of Victorville. In 1998, the population of Apple Valley was approximately 56,900, and there were 14,972 housing units. The vacancy rate was 6.5 percent. The median household income in 1998 was $39,700 and the per capita income was $16,167.

Los Angeles County Regeneration Site

One proposed regeneration site would be located in Los Angeles County and it is located near the community of El Mirage. The regeneration station site is located east of Palmdale, a desert community which is located in the north central portion of Los Angeles County, northeast of Los Angeles and adjacent to SR 14. The population in 1998 was 120,100, with 35,780 housing units and an average of 3.345 persons per household. The vacancy rate was estimated at 12.6 percent. Temporary housing includes approximately 6495 units. Median household income was estimated at $45,890 with unemployment at 5.3 percent. Per capita income was at $14,606. Palmdale's main source of income is in the service-producing industry, which represents 69 percent of the total employment. Aerospace is also a dominant industry in the Antelope Valley.

The regeneration site is also in close proximity to the City of Santa Clarita. Santa Clarita is situated south of the Sierra Pelona Mountain Range and north of the Santa Susanna and San Gabriel Mountain Ranges between Interstate 5 and SR 14 in Los Angeles County. It is located 35 miles northwest of downtown Los Angeles. The population in 1998 was estimated at 151,260 and ranks in the top three of the fastest growing cities in Los Angeles County. Housing units were estimated at 50,969 with an average of 2.95 persons per household. The vacancy rate was estimated at 3 percent. Temporary housing includes approximately 9292 units. Median income was $66,575, with a 2.7 percent average unemployment rate. Per capita income was $21,073. Major employment (29 percent) is manufacturing, followed by the services industry.

Table 4.13-2 presents population and housing characteristics in the cities adjacent to the proposed regeneration station sites.

ENVIRONMENTAL IMPACTS

ON-ROW

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed system will provide point-to-point service through a network of fiber optic cables. There is no direct private access to the fiber optic cable; the network is not a form of infrastructure such as roads, water, or sewer lines that can induce population growth within specific areas. The availability of high-speed, high-volume communications is one factor among many (e.g., cost of living, economic opportunities, market availability, quality of schools, salary levels, tax levels) in the decision by people and businesses to locate in California. Therefore, the proportional contribution of the proposed system to California's future growth will be too remote and speculative for analysis. Also, the volume of traffic originating or terminating in California cannot be differentiated from the amount of traffic passing through California. The indirect impact of this project and others of its type on that growth is only speculative. No impacts will occur.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The proposed system will serve existing and future telecommunications demand through a network and will not induce substantial population growth in any particular area nor make a cumulatively considerable contribution to population growth. Construction will not displace any housing or numbers of people. The installation process is quick and will not require the construction of new housing. There will be no impact on population or housing as a result of the proposed EPGN project.

OFF-ROW

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Table 4.13-2. City Housing and Population Characteristics

Location	Population	Housing Units	Persons Per Household	Vacancy Rate %	Temporary Housing Units	Unemployment Rate %	Median Household Income $	Per capita Income $
City of Blythe	21,050	2918 *	3.02*	4.2*	1467*	6*	22,847*	22,847*
City of Twentynine Palms	14,850	4505	2.61	4.7	2198*	11.7*	24,527*	10,892*
City of Apple Valley	56,900	14,972	2.986	6.5	N/A	N/A	39,700	16,167
City of Victorville	57,211	19,689	2.88	17	5513*	10.4	35,597	13,323*
City of Palmdale	120,100	35,780	3.345	13.6	6495*	5.3**	45,890	14,606*
City of Santa Clarita	151,260	50,969	2.95	3*	9292*	2.7**	66,575	21,073*
City of San Fernando	24,100	5794*	3.96*	1.2*	258*	7.5**	32,128*	8876*
City of Burbank	105,300	41,216	2.27	6.7	21,300*	3.9**	35,989*	18,897*
City of Glendale	199,200	71,114*	2.59*	4.5	41,845*	5.4**	55,500	17,966*

* Denotes data obtained from the U.S. Census Bureau 1990
** Denotes data obtained from The Los Angeles Almanac 2001, data is for the year 2000
N/A = Not Available

Source of Other Statistics: California Dept. of Finance and CERES 1998 County Information

All Regeneration Stations

The proposed regeneration stations would pose a less-than- significant impact. The construction and operation of the regeneration stations will not necessitate new housing or infrastructure. No population growth will result from either the construction or existence of the ancillary facilities. Construction activities at any single site along the route would seldom last more than one day during the fiber optic cable installation. Construction of each regeneration station would last approximately one month, near each of the cities designated for this equipment. The targeted cities are: Blythe, Twentynine Palms, Victorville, Palmdale, and possibly Santa Clarita. Over the 4-week construction period, the average and peak construction crew will be 75 people. After construction is completed, there will be approximately four visits to the site per month for maintenance purposes only, but it is anticipated that these visits will be short in duration and will not cause any impact to local population or housing.

Local employment opportunities might increase temporarily during the construction phase. There would be temporary (approximately one month) increases in demand for services such as hotel, motel, and campsite accommodations, and restaurants while the construction crews are working in an area.

Overall, no population growth will result directly from the proposed regeneration stations. No roads or other infrastructure will be extended, resulting in indirect population growth.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

All Regeneration Stations

The proposed regeneration stations will not displace existing housing or substantial numbers of people, necessitating the construction of replacement housing elsewhere. No impacts will occur.

4.14 PUBLIC SERVICES

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

Public services are typically provided to development projects by a variety of local purveyors (i.e., city, county, special district, school district). The services available vary depending on the level of development in the area. The proposed system will require no public services; therefore, no discussion of the services setting is necessary.

OFF-ROW

No government facilities or structures would be physically altered by construction of the proposed project. Most of the proposed regeneration station sites are located in rural, relatively underdeveloped areas.

ENVIRONMENTAL IMPACTS

ON-ROW

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection; police protection; schools; other public services?

The proposed system provides for the installation of a telecommunications system along existing ROWs. Construction will be temporary, quick, and self-sufficient. The proposed project will create no new

demand for governmental services or facilities and will not require construction, alteration, or expansion of any such facilities to provide acceptable service levels. The proposed system will incorporate a fire prevention and management plan during construction, where necessary, thereby mitigating the need for new permanent or temporary fire protection facilities. The proposed system will have no impact relative to public services, except for fire protection in which the impact is considered less –than significant because a fire protection and management plan for the project system will be prepared by EPGN.

OFF-ROW

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection; police protection; schools; other public services?

The proposed regeneration station sites would generate a negligible increase in the need for police and fire protection since the project sites are to be fenced and would consist of either concrete slab or gravel surfaces. Also, the proposed sites would not generate additional local population or contribute to a need for more public schools, parks, or other public services and facilities. Therefore, no impact would result.

4.15 RECREATION

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☒	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

ON-ROW

Public recreation facilities are provided by cities, counties, and special districts. The types and intensity of facilities vary greatly. However, recreation facilities within the EPGN system mainly consist of dispersed recreation activities on public lands within the desert. Recreation activities include sightseeing, hiking, camping, picnicking, wildlife observation, hunting, and all-terrain vehicle (ATV)/motorcycling. The proposed system provides for the installation of a telecommunications system. Because the proposed system will be located within existing ROWs, the demand for recreational facilities will not be affected. The system does not cross over nor is adjacent to designated public recreation facilities. The ROW does not cross any neighborhood parks. The ROW is located 0.25 miles from Joshua Tree National Monument; however, the ROW is not within the monument's boundaries.

The ROW crosses BLM land in Riverside and San Bernardino Counties. In Riverside County, the BLM land in the vicinity of the ROW is primarily Class M (Moderate Use) and to a lesser extent, Class L (Limited Use); a small portion of the BLM is unclassified.

In San Bernardino County, BLM land that crosses the ROW is classified as Class M and Class L with a small portion that is unclassified. BLM land may be used for dispersed type recreation such as picnicking, hiking, wildlife observation, and ATV/motorcycling.

Multiple-Use Class M (Moderate Use) is based upon a controlled balance between higher intensity use and protection of public land. This class provides for a wide variety or 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 that permitted uses may cause.

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.

OFF-ROW

There are six proposed regeneration stations along the route in the State of California.

Riverside County Regeneration Stations

The Blythe regeneration station is located near BLM land. The locale shows considerable evidence of ATV traffic in the area; however this site is not a developed recreation facility.

San Bernardino County Regeneration Stations

There are four proposed regeneration stations in San Bernardino County. None of these sites show evidence of recreation activity nor are located on or near developed recreation sites.

Los Angeles County Regeneration Stations

Los Angeles County contains one potential regeneration station. The El Mirage site is not a developed recreation facility.

ENVIRONMENTAL IMPACTS

ON-ROW

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed system provides for the installation of a telecommunications system along existing ROWs. The project will result in a temporary increase in the population along the route due to the construction workforce. The installation of the system will not result in a long-term increase in the demand for recreation facilities nor the need to construct or expand any recreational facilities.

Impact REC-1

An increase in off-road vehicle use and illegal camping on public lands may occur by the construction workforce. These could potentially impact the physical condition of public lands, especially in the desert areas.

Installation activities along the project system that cross rural areas may also temporarily affect hunting opportunities for game birds and waterfowl by disturbing game and dispersed type recreation activities such as wildlife observation, hiking, and ATV/motorcycling. The installation of the proposed project will move quickly along a linear route and will be temporary in nature. Further, the ground crossed will be restored as close to pre-project conditions as possible or practicable. This impact is considered less –than significant.

Mitigation REC-1

EPGN shall instruct the contractor to limit vehicle traffic to the construction ROW, and prohibit off-road vehicling on public lands and camping, except in authorized areas. The proposed system will have a less-than-significant effect with mitigation incorporated on recreational opportunities or facilities.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed system provides for the installation of a telecommunications system along existing ROWs. The project will not include construction or expansion of recreational facilities; therefore no adverse physical effects to the environment will result.

OFF-ROW

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

All Regeneration Stations

Noise, dust, and general construction activities could temporarily disturb such activities as wildlife observation and ATV/motorcycling. An increase in off-road vehicle use and illegal camping on public lands may occur by the construction workforce. With implementation of Mitigation REC-1, the impact would be considered less –than significant.

The proposed regeneration station sites would not involve an increase in population. There would be no impact as the project would not increase the use of existing neighborhood or regional parks, or require the construction or expansion of existing recreational facilities. The proposed project would not physically impact any recreational facilities or interfere with the use and enjoyment of existing recreational facilities.

4.16 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated road or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

ON-ROW

The Los Angeles area is served by a well-developed network of freeways, highways, and surface streets, as well as mass-transit facilities. The proposed system passes through rural, suburban, and urban areas of the state. In suburban and urban settings, development tends to directly abut surface streets. The proposed ROW would be within the paved surfaces of roadways. In rural areas, the shoulders of the road pavement are generally undeveloped.

The EPGN proposed system will be installed underground within existing road ROWs and suspended to bridges over water crossings. The southern California system traverses numerous cities, three counties (Riverside, San Bernardino, Los Angeles), and through lands managed by the BLM.
The proposed system begins at the California/Arizona border near Blythe, roughly follows county and secondary roads, state highways, and urban streets westerly until turning southward at Palmdale into the City of Los Angeles along surface (residential/light commercial) streets.

OFF-ROW

Blythe Regeneration Station Site - Riverside County

Located in Riverside County, the proposed Blythe Regeneration Station site is adjacent to the Sante Fe Railroad tracks where Midland Road and Lovekin Boulevard become the same road. Currently, the rail traffic on these lines averages approximately two trains per day, one out-bound and one in-bound (Blythe General Plan Circulation Element). The average daily traffic count in that vicinity is 180 vehicle trips according to Station No. 20,072 records (Ron Filian, Riverside County GIS Traffic Count Report).

Rice Regeneration Station Site - San Bernardino County

Located in San Bernardino County, off of Midland Road near the intersection of SR 62. The proposed Rice Regeneration Station site is just north of Station No. 50,001 in Riverside County where the average daily traffic count on Midland Road is two vehicles per day. SR 62, traveling in a westerly direction, has an average daily traffic count of 1600 vehicles per day according to the count at Station No. 80,170.

Twentynine Palms Regeneration Station Site - San Bernardino County

Located in San Bernardino County, the proposed Twentynine Palms Regeneration Station site is about 3 miles east of the intersection of SR 62 and Chadwick Road. Chadwick Road is a dirt road and not maintained by San Bernardino County. SR 62 has an average daily traffic count of 180 vehicles per day according to Station No. 80,169, the closest counting station.

Linn Regeneration Station Site - San Bernardino County

Located in San Bernardino County, the proposed Linn Regeneration Station site is on Linn Road at Shawnee Lane, a dirt road, and is about 1 to 1½ miles east of Old Woman Springs Road. Linn Road has an average daily traffic count of 518 vehicles per day east of SR 247 and 269 vehicles per day west of Belfield Boulevard (Eloy Ruvalcaba, San Bernardino County Traffic Count).

Apple Valley Regeneration Station Site - San Bernardino County

Located in San Bernardino County, the proposed Apple Valley Regeneration Station site is located at Soledad Road and SR 18 in Apple Valley. The average daily traffic count is 5935 vehicles per day at Bear Valley Road cutoff west of SR 18 (Eloy Ruvalcaba, San Bernardino County Traffic Count).

El Mirage Regeneration Station Site - Los Angeles County

Located in Los Angeles County, the proposed El Mirage Regeneration Station site is south of El Mirage Road and east of 240th Street East. The average daily traffic count is 3475 vehicles per day on El Mirage Road west of Sheep Creek Road (Eloy Ruvalcaba, San Bernardino County Traffic Count).

ON-ROW

Urban installation will require trenching into and replacing existing pavement. Installations along rural and low-intensity suburban road ROWs will be plowed or trenched outside the pavement. Crossing of freeways and larger roads, as well as crossing certain urban installations, will be accomplished by boring beneath them. Traffic impacts will be temporary and only associated with construction activities. Therefore, no long- term impacts on traffic will be associated with operations or maintenance of the proposed project.

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Impact TR-1

The telecommunications system will be either buried in existing road ROWs, or hung from existing bridges. Access to the project system will be via existing access roads to the ROWs in which the system will be installed. Most of the installation in road ROWs will be within the road shoulder outside of the paved surface. Road paving will be cut and replaced (under permit from the appropriate public agency) only where environmental constraints preclude using the road shoulder or other portion of the ROW. Major road crossings will be tunneled, obviating the need for major road closures during construction. However, even where construction activities are entirely off of the paved surface, some traffic will occur.

The construction crews are characterized as the preparation crew, cable installation crew, and cleanup crew. Installations along road ROWs, particularly in urban areas, will have less need for preparation and cleanup crews than installation in non-urban ROWs. Most of the traffic and traffic disruption that may occur during installation along existing road ROWs will result from the installation crews.

Plowing and trenching methods might be used adjacent to roadways, depending on the physical characteristics of the site. Trenching will be the method of installation within roadways. Typically, the equipment used by a trenching crew will include an asphalt cutter, a backhoe/excavator, a roller/compactor, a spool truck, and pickup trucks. For comparison purposes, given the narrowness of the required trenching and the type of equipment used, pavement work will generally be less invasive than domestic water main replacement. With implementation of measures outlined in the traffic control plan to be prepared by EPGN, this impact is considered less –than significant.

Mitigation TR-1

- EPGN will coordinate with county and city public works departments and CalTrans to minimize ROW encroachments.
- All local safety and construction standards shall be met through the local permit process.
- Advance notice of construction date and time shall be given two weeks prior to surrounding area.
- EPGN shall consult with local agencies on appropriate restoration of impacted public service facilities in ROW.

- EPGN will submit as-built plans to CalTrans and county public works departments for areas where the proposed route encroaches on CalTrans ROWs.
- Traffic control measures, such as the placement of warning signs and the use of traffic control personnel when appropriate, shall be implemented.
- EPGN shall prepare a traffic control plan detailing lane closures, scheduling, signing and flagging procedures, safety protocol, etc.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Although more than one crew may be working along the route at a given time, due to the length of the construction spread, trucks and other vehicles will typically gain access to construction sites from different sets of roadways and intersections.

Employee trips by construction workers traveling to and from sites are not anticipated to exceed 20 per day per crew. Truck trips will be considerably less because the construction equipment will remain at the site during work hours, arriving and leaving once daily from designated staging areas. Spool trucks will make two or three trips per day, depending on the speed of installation and need for conduit.

The proposed project, with its associated vehicles, will temporarily increase traffic and disrupt traffic flow as installation crews move along road ROWs. However, the increases in traffic will not be substantial, and the project impacts will be less –than significant.

The proposed project may temporarily disrupt traffic during installations adjacent to or within traffic lanes. A traffic control plan shall be implemented to reduce the impacts of lane closures and traffic flow disruptions to a less-than-significant level.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project will most commonly involve below-ground installation and will not result in construction of any towers or other impediments to air traffic. There will be no impact as a result of the proposed project.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Heavy equipment operating adjacent to a railroad or within or adjacent to a road ROW may increase the risk of accidents. Railroads require safety training of construction crews before they are permitted to work within the railroad ROWs. Encroachment and any other necessary permits will be acquired from the appropriate governing agency prior to any construction in a public road ROW. The traffic control plan will provide that installation crews will comply with roadside safety protocols and with signing and flagging requirements so as to reduce the risk of accident. Work crews will be trained in either roles and responsibilities before construction begins. Proposed project effects on the risk of accidents are considered less – than significant because EPGN will adopt a traffic control plan and will provide appropriate safety training. EPGN will also obtain and comply with all local and state road encroachment permits.

e) Result in inadequate emergency access?

The proposed system will have temporary effects on traffic flow, particularly where the system is located within road ROWs. In those limited instances when the installation will encroach on traffic lanes, traffic will be managed in accordance with the traffic control plan, which will allow priority passage by emergency vehicles. Proposed project effects on emergency access are considered less –than significant because EPGN will adopt a traffic control plan and will also obtain and comply with all local and state road encroachment permits.

f) Result in inadequate parking capacity?

The proposed project will create limited new, temporary parking demand as crews move along the installation corridors. Any parking during construction will be limited to the ROW corridor, as provided in the encroachment permit issued by the appropriate governing agency. Construction equipment will be kept in designated staging areas when not in use and will not create new parking demand. The proposed project effects on parking are considered less –than significant, as EPGN will obtain and comply with local and state road encroachment permits.

g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The proposed project consists of the installation of the system within or adjacent to existing ROWs; and after construction, all affected areas will be returned to their preconstruction state. Using alternative transportation modes for installation crews, such as bicycles or buses, will not be consistent with the proposed project objectives of rapid construction or with construction methods. The proposed project will have no impact on demand for alternative transportation or on alternative transportation facilities (i.e., bus stop, parking and ride lot).

OFF-ROW

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

All Regeneration Stations

Construction of the proposed regeneration station sites would cause a less-than-significant impact on the traffic of local roadways. During project construction, traffic would be generated by construction crews and equipment/material deliveries, but the number of vehicle trips would be small and endure only for a period up to three or four weeks. Construction of the proposed regeneration stations would involve the delivery of 12-foot-wide, pre-fabricated buildings on low-bed trucks, which would cause temporary traffic delays on public roadways. A special permit from CalTrans would be required to haul an over-wide load, but no traffic control other than advisory pilot cars would be required.

The operation of the proposed regeneration stations would require approximately two to four trips to the project site each month for maintenance purposes. These would be single, standard vehicle visits that would not significantly increase local traffic congestion. No local roadways would be significantly affected during construction or operation of the proposed regeneration stations; and due to the very small

amount of vehicle traffic associated with the proposed regeneration stations, no impact on the level of service of local roadways would occur.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

All Regeneration Stations

The proposed regeneration station sites would not change air traffic patterns, physically interfere with existing air traffic or airstrips, or result in an increase in air travel.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

All Regeneration Stations

There are no substantial increases to hazards due to design features of the proposed regeneration stations or incompatible uses of the project that pose a safety hazard to traffic or transportation systems.

e) Result in inadequate emergency access?

All Regeneration Stations

EPGN will implement a traffic control plan for the proposed regeneration station sites as part of the construction strategy to avoid conflicts with emergency vehicle traffic or access to nearby parcels during construction. Emergency access would be regulated as a condition of road encroachment permits from each county.

f) Result in inadequate parking capacity?

All Regeneration Stations

The proposed regeneration station sites would not generate a need for parking other than for occasional visits by maintenance crews. Parking areas would be limited to the gravel areas at each site, and would be located entirely within the fenced property boundaries.

g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

All Regeneration Stations

Construction of the proposed regeneration stations would not occur at any bus turnouts, bicycle lanes/racks, or other alternative transportation facilities.

4.17 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
f) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

ON-ROW

Utilities are typically provided to development projects by a variety of local purveyors (i.e., city, county, special district, water agency, power company). The services available vary depending on the level of development in an area. The proposed system will require no utilities; therefore, no further discussion of the utilities and service systems setting is needed.

OFF-ROW

County of Riverside

Proposed regeneration station sites located in the County of Riverside would not require water or wastewater services. The City of Blythe maintains a Class III Landfill, which as of 1989 had an estimated remaining capacity of 70 years (City of Blythe California General Plan).

County of Los Angeles

Proposed regeneration station sites located in the County of Los Angeles would not require water or wastewater services. The County of Los Angeles utilizes several landfills including Calabasas, Puente Hills, and Scholl Canyon. The remaining capacity of the Calabasas Landfill is 18 years, the Puente Hills Landfill is three years with a possible extension of ten additional years, and the Scholl Canyon Landfill is 23 years (Don Avila, personal communication, December 11, 2000). In addition, the County of Los Angeles utilizes the Sunshine and Chiquita landfills for waste disposal services. The Chiquita Landfill has a remaining capacity of 19 years (Travis Lang, personal communication, December 11, 2000).

County of San Bernardino

Proposed regeneration station sites would not require water or wastewater services. The Mid-Valley Landfill serves San Bernardino County; this landfill has a remaining capacity of 15 years (Paul Glass, personal communication, December 11, 2000).

ENVIRONMENTAL IMPACTS

ON-ROW

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project will incorporate the requirements of the NPDES in the SWPPPs (including erosion control and SPCCs) prepared for each project route. The plans will specify measures to reduce erosion and production of drainage water to a less-than-significant level and will be prepared to meet the requirements for approval by the applicable RWQCB.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would not require water and would not generate any waste. Portable toilet facilities would be available on-site during construction, and no waste would be disposed on-site. The proposed project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would not require or result in the construction of new stormwater drainage facilities. The proposed project will not create new impermeable surfaces that substantially increase drainage runoff beyond that existing without the project.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The proposed project will require no external water supply. Sufficient water supplies currently exist without requiring new or expanded entitlements.

e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

During construction of the proposed system, the plowing method does not remove soil from the route, and any soil removed during trenching will be replaced into the trench. There will be sufficient landfill capacity to meet the needs of the proposed project. However, concrete may be used as fill within roadways as requested by permitting agencies. All excess trench spoils will be disposed of at permitted landfills.

f) Comply with federal, state, and local statutes and regulations related to solid waste?

Solid waste associated with the proposed route includes soil displaced by installation of the conduits, empty spools, and other packaging material associated with the conduits. The proposed route will not produce substantial amounts of solid waste. Soil removed during trenching operations will be replaced and the surface returned as close to pre-project conditions as possible or practicable. Areas around boring operations will similarly be cleaned up at the final phase of the operation. Plowing operations will not remove soil. Spools and other packaging for conduits will be taken away for re-use, recycle, or disposal at a landfill. Once installation is complete, the proposed system will produce no solid waste.

OFF-ROW

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

All Regeneration Stations

The proposed project will incorporate the requirements of the NPDES in the SWPPP (including erosion control and SPCCs) prepared for each proposed regeneration station site. The plans will specify measures to reduce erosion and production of drainage water to a less-than-significant level and will be prepared to meet the requirements for approval by the applicable RWQCB.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

All Regeneration Stations

Any proposed regeneration station sites would not require water and would not generate any waste. Portable toilet facilities would be available on-site during construction, and no waste would be disposed on-site. The proposed regeneration stations would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

All Regeneration Stations

The proposed regeneration station sites would not require or result in the construction of new stormwater drainage facilities. The proposed concrete pads for the proposed regeneration stations would result in a negligible increase in storm runoff relative to existing conditions.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

All Regeneration Stations

The proposed regeneration station sites would not require water.

e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

f) Comply with federal, state, and local statutes and regulations related to solid waste?

All Regeneration Stations

The proposed regeneration station sites would have a less-than-significant i***mpact*** on landfills. Although no soil would be removed from the project sites, cleared vegetation may be disposed of off-site as solid waste. Following construction, the proposed regeneration stations would produce no solid waste. The proposed project would comply with federal, state, and local statues and regulations related to solid waste.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
Mandatory Findings of Significance:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
Issues (and Supporting Information Sources):				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Construction and operation of the proposed California Telecommunication System Project will not degrade the quality of the environment. It will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below a self-sustaining level, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, with the implementation of the mitigation measures proposed in Section 4.5. The Project will not eliminate important examples of the major periods of California history or prehistory.

The proposed project will not result in cumulative impacts or growth inducing impacts. No adverse effects on human beings, either directly or indirectly, will result from the proposed project.