

Addendum

SEGMENT 3B GAS PIPELINE PROTECTION FACILITIES

**for Southern California Edison's
Antelope Transmission Project, Segments 2 & 3**

Application No. A.04-12-008

SCH No. 2006041160

Prepared By:



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A. Introduction and Background

The Final Environmental Impact Report (EIR) for the Antelope Transmission Project, Segments 2 & 3 (Project) (Aspen Environmental Group, 2006) was certified and a Certificate of Public Convenience and Necessity (CPCN) was granted by the California Public Utilities Commission (CPUC) (Docket #A.04-12-008, SCH #2006041160) on March 15, 2007. For a history, background and overview of the Project, please see Section A of the First Supplemental Evaluation (March 2009).

Southern California Edison (SCE) has completed final engineering on the approved Project and has built many portions of the Project. Based on final engineering, additional details of various components of the Project have been further defined. Please see Supplemental Evaluations 1 through 6 for a description and analysis of previous Project modifications. These include the following:

- 1) *Supplemental Evaluation [1] of Project Modifications*, March 2009
- 2) *Supplemental Evaluation 2 for Project Modifications*, April 2009
- 3) *Supplemental Evaluation 3 for Wilderness Transmission Line Modification*, April 2009
- 4) *Supplemental Evaluation 4: Construction of Dead-End Lattice Steel Towers in Segment 3B*, May 2009
- 5) *Supplemental Evaluation 5: Converting Temporary Access Roads 12B and 62 to Permanent Roads in Segment 2*, August 2009
- 6) *Supplemental Evaluation 6: Segment 3A Access and Spur Road Plan Modifications*, September 2009

Additionally, Addendums (January through December 2010) were completed that addressed modifications to the approved Project which involved the following:

- Leaving Access Road (AR) 19 as a permanent access road, in place of the original approved permanent AR 18
- Improving the existing access road to Construct 34A
- Leaving AR 69 and 137 as permanent roads
- Relocating transposition facilities from Construct 106 to Construct 110
- Relocating transposition facilities from Construct 106 to Construct 105
- Permanent overland travel route and placement of vertical mulch
- Removal of Transposition Structures
- Permanent Access Roads
- Permanent Drainage Feature at Windhub Substation

This Addendum addresses another modification to the approved Project based on SCE's *Request for Environmental Impact Report Addendum for Gas Pipeline Protection Facilities Supporting the Tehachapi Renewable Transmission Project Segment 3B* (referred to herein as "Addendum Request" [SCE, 2011]), submitted by SCE to the CPUC on December 2, 2011. This modification is described in detail in Section B, below.

Based on the evaluation of SCE's proposed modifications to the approved Project described in Section C below, no new or substantially different impacts have been identified, no changes to impact significance conclusions are needed, and no new mitigation is necessary. Therefore, there is no need for any additional CEQA analysis of the Project modifications described in Section B, below.

B. Modifications to the Project

Based on the final design of the Segment 3B electric transmission line, preliminary engineering designs and construction methodologies have been completed to protect the existing gas pipeline facilities from induced alternating current effects by the Segment 3B transmission line. Segment 3B covers approximately 9.6 linear miles in Kern County, California (mile markers 0.0 to 9.6). Segment 3B extends west from the Windhub Substation (identified in the EIR as “Substation One”) through the Tehachapi Wind Resource Area (TWRA), and then continues north where it terminates at the proposed Highwind Substation (identified in the EIR as “Substation Two”). The gas pipeline protection facilities are proposed generally from structures 3B-26 to 3B-71, and cover approximately 5.7 miles of the Segment 3B alignment, as shown in Appendix A (Revised Disturbance Maps) (SCE, 2012a).

The proposed modifications to the approved Project are proposed to protect existing Pacific Gas & Electric (PG&E) and El Paso Natural Gas (EPNG) gas pipeline facilities from the induced alternating current (AC) effects introduced by the new Segment 3B Windhub – Highwind 220kV transmission line. The gas pipelines located in or near the Segment 3B right-of-way (ROW), which will require protection facilities, include the following:

- 34-inch PG&E Gas Line 300A
- 34-inch PG&E Gas Line 300B
- 42-inch EPNG Gas Line 1901
- 30-inch EPNG Gas Line 1903

Appendix A provides revised disturbance maps depicting the Segment 3B transmission line, gas pipelines, proposed pipeline protection facilities, access roads, and other work/disturbance areas associated with the pipeline protection construction activities. Deep ground rods (DGR), zinc ribbon mitigation wire (ZR), and gradient control mats (GCM) are proposed to be installed on the influenced pipelines. Installation of these facilities along the existing gas pipelines will ensure a prolonged useful life for these gas pipelines, and safe operation and maintenance. Each of these Project components is described below.

B.1 Project Construction

Construction of the proposed modifications is required prior to energizing the Segment 3B transmission line. Installing the new gas pipeline protection facilities will include three sequential phases: road preparation, site preparation, and installation of gas pipeline protection facilities.

B.1.1 Road Preparation

Access road preparation is the first step in constructing the gas pipeline protection facilities. Existing access roads along the existing SCE, PG&E, and EPNG ROW corridor would be used to the greatest extent feasible. Existing access roads that are too narrow (less than 15 feet) to accommodate equipment or would require maintenance for constructability or safety reasons would be modified. This may involve smoothing ruts to widening the road to 15 feet to accommodate large construction equipment. Overland travel, which involves driving over existing vegetation to access sites, may be used in limited instances where there are no existing roads (i.e., flat terrain areas that can be traversed by vehicles as is). Such temporary roads would be restored. See Appendix A (Revised Disturbance Maps) for the types of road and where overland travel may occur.

Proposed permanent access roads will be required for future operations and maintenance of the gas pipeline protection facilities. Table 1 provides the approximate lengths and disturbance areas of new roads and roadway improvements associated with the gas pipeline protection facilities, as well as the general location

with respect to Segment 3B. All features listed in Table 1 are considered permanent impacts with the exception of overland travel roads; all overland travel roads are considered as temporary disturbance only. Based on current engineering the total temporary disturbance associated with the proposed pipeline protection facilities is 7.55 acres (includes overland travel roads, new temporary roads, and work areas); total permanent disturbance is 8.8 acres (includes new roads and improvements to existing roads); total disturbance of 16.35 acres (SCE, 2012a). It should be noted that the acreage values presented in Table 1 are intended to be estimates only for individual features and do not account for possible overlaps with other disturbance areas.

Table 1. Proposed Access Roads for Pipeline Protection Facilities Along Segment 3B

Gas Pipeline Protection Feature (See Appendix A)	Location Relative to Segment 3B Structure	Description of Road and Improvements	Disturbance Area (approximate)	Total Length (approximate)
PGE-B GR1, PGE-B AGP1, PGE-B AGP2	West of 27 to southwest of 28	Existing, requires improvement	0.52 acres	1,513 feet
PGE-A AGP1, PGE-A AGP2	Southwest of 28	Existing, requires improvement	0.08 acres	227 feet
EP901 GR1	South of 28	Existing, requires improvement	0.08 acres	230 feet
PGE-A AGP2, EP901 GR1, PGE-A AGP3, PGE-A GR1	South of 28 to southwest of 32	Existing, requires improvement	1.45 acres	4,200 feet
PGE-B GR2, PGE-B AGP3	South of 29 to east of 31	Existing, requires improvement	0.74 acres	2,144 feet
EP903 GR1	North of 31	Existing, no improvement required	No disturbance	343 feet
EP901 GCM1	Southwest of 31	Existing, requires improvement	0.05 acres	157 feet
PGE-B AGP3	East of 31 to northwest of 39	Existing, requires improvement	0.89 acres	2,590 feet
PGE-A GR3, PGE-A GR4, PGE-B AGP4	Northeast of 38 to northeast of 42	Existing, requires improvement	1.27 acres	3,674 feet
PGE-B AGP4	North, between 42 & 43	Existing, requires improvement	0.04 acres	118 feet
PGE-B GR3	North of 40 to northwest of 41	Existing, requires improvement	0.52 acres	1,515 feet
PGE-A GR2	North of 32	Overland travel	0.11 acres	236 feet
PGE-B GR3	North of 41	New permanent	0.05 acres	129 feet
PGE-A GR3	North of 39	Overland travel	0.04 acres	76 feet
PGE-A GR4	North / between 39 & 40	Overland travel	0.02 acres	34 feet
PGE-B AGP5, PGE-B AGP6, PGE-B AGP7, PGE-B AGP7.1	Northwest of 44 to northeast of 45	Existing, requires improvement	0.49 acres	1,430 feet
PGE-A GR5, PGE-B AGP6, PGE-B AGP7, PGE-B AGP5	North of 44	Existing, requires improvement	0.27 acres	785 feet
PGE-A GR6	North / between 44 & 45	New permanent	0.04 acres	89 feet
PGE-B AGP7.1	Northeast of 45	Existing, requires improvement	0.01 acres	39 feet
PGE-A AGP5	Northwest of 46	Existing, requires improvement	0.01 acres	32 feet
PGE-B AGP8	North of 46	Existing, requires improvement	0.05 acres	156 feet
EP903 GR2, EP901 GR3	North / between 47 & 48	Existing, requires improvement	0.42 acres	1,233 feet

Gas Pipeline Protection Feature (See Appendix A)	Location Relative to Segment 3B Structure	Description of Road and Improvements	Disturbance Area (approximate)	Total Length (approximate)
PGE-B GCM1, PGE-B GR5	Southeast of 51	New permanent	0.02 acres	50 feet
EP901 GR6	Southwest of 53	New permanent	0.07 acres	159 feet
EP901 GR7	South of 53	New permanent	0.05 acres	120 feet
EP901 GR6, EP901 GR7	South of 53	Existing, requires improvement	0.34 acres	997 feet
EP901 GR8	South / between 53 & 54	New permanent	0.02 acres	48 feet
EP901 GR9	Southwest of 54	Overland travel	0.02 acres	46 feet
PGE-A GR14	South of 61	Overland travel	0.04 acres	87 feet
PGE-A GR12	East / between 61 & 62	Overland travel	0.02 acres	34 feet
PGE-A GR10, PGE-A GR11, PGE-A GR12, PGE-A AGP8, PGE-A GR13, EP901 GR10, EP901 GR11, PGE-B GR7	Southwest of 61 to north of 71	Existing, requires improvement	1.85 acres	5,372 feet
PGE-B GR7	North of 71	Existing, requires improvement	0.13 acres	369 feet

Source: SCE, 2012a – DR#1, Table 1 (revised).

Definitions: AGP – Above Ground Pipe; EP – El Paso Natural Gas; GCM – Gradient Control Mats; GR – Ground Rod or Deep Ground Rod; PGE – Pacific Gas & Electric; ZR- Zinc Ribbon

Note: Acreage values presented are intended to be estimates only for individual features and do not account for possible overlaps with other disturbance areas. Therefore, the total acreage values presented in the Biological Resources Report (SCE, 2011 - Attachment B) are considered the most accurate estimates as presently engineered.

B.1.2 Site Preparation and Installation of Gas Pipeline Protection Facilities

Deep ground rods (DGR), zinc ribbon (ZR) mitigation wire, and gradient control mats (GCM) are proposed to be installed at the existing gas pipeline facilities. Installation of these gas pipeline protection facilities is different for each type, as described below.

Deep Ground Rods

A single deep ground rod (DGR) is required at each of the called-out locations depicted in Appendix A (Revised Disturbance Maps), and as detailed in Table 1. Installation of a DGR will require a disturbance area of approximately 50 feet by 100 feet. Each ground rod would be placed underground, approximately five feet from the existing gas pipeline. A six inch diameter hole would be drilled from 50 feet to 509 feet deep depending on the ground rod location, as specified in the design. Groundwater may be encountered during drilling operations; the pipeline owner’s contractors would determine appropriate drilling methodologies to address groundwater management, including whether dewatering is required (SCE, 2012a). Standard drilling fluids would maintain the borehole in an open condition (SCE, 2012a). Spoils (soil cuttings) would range from 10 to 100 cubic feet per location (SCE, 2012a). These soil cuttings may be temporarily stockpiled on site within the designated disturbance area; soil cuttings would be disposed of at an appropriate off-site landfill (SCE, 2012a). Ground rod pipes ranging from one half inch to one and one half inch in diameter are to be placed in the hole for the entire length of the hole. The top of the pipe is then connected to the existing gas pipeline with #6 AWG wire, which is installed a minimum of two feet below grade and connected to the pipe via an exothermic weld process (SCE, 2012a). Finally, the hole is backfilled with bentonite clay based, electrically conductive material. This material would be pumped to the bottom of the hole through the ground rod pipes until it returns to the surface. The actual pumped volume is compared

to the calculated volume to ensure no voids are in the column (SCE, 2012a). This material is compatible with groundwater, remaining stable over time and preventing water transport through the borehole (SCE, 2012a). Finally, the top of the borehole would be sealed with a 50 pound 100 percent bentonite clay plug. The top of the hole is then covered with native soil, leaving no obvious indication of its presence.

Zinc Ribbon Mitigation Wire

Installation of ZR will require a 10-foot wide disturbance along a trench with a turn-around area of 25 feet by 25 feet on either end of the trench. ZR or a Faraday Shield would be installed underground on PG&E Pipeline 300A for approximately 2,010 feet, approximately five feet from the existing gas pipeline while crossing the gas pipeline in one location. The ZR wire would be connected to three ground rods with a #2 AWG (wire) and would also be connected to the existing pipeline with a 4/0 AWG (wire). These mitigation features would be installed approximately two to three feet below grade. Please see Appendix A (Revised Disturbance Maps) for the location of this installation which is proposed near structure 3B-47 and extends just south of structure 3B-49. This is the only location where installation of ZR is required along Segment 3B.

Gradient Control Mats

Installation of GCM will require a disturbance area of approximately 30 feet by 60 feet. The GCM function is to provide a safe, uniform voltage gradient at the surface of the earth in the immediate vicinity of above ground appurtenances (i.e., gas valves, fences, above ground pipes) on an influenced pipeline. These mats would be installed near such features. Specifically, there is an extreme concern for potential differences between above ground pipeline appurtenances and adjacent chain link security fencing. These fences must be bonded to the pipeline in order to avoid hazardous touch potential differences between the pipeline and fence.

All construction activity would occur within the disturbance areas, which would be either centered on or immediately adjacent to the existing pipelines. All areas provided above are typical. Actual areas specific to each work location are displayed on Appendix A (Revised Disturbance Maps). The total disturbance area associated with the pipeline protection facilities is 16.35 acres, with a total of 7.55 acres temporary disturbance and 8.80 acres permanent disturbance.

B.1.3 Construction Details for Gas Pipeline Protection Facilities

Installation of the pipeline protection facilities would require the use of heavy construction equipment such as the following:

- Mud/air rotary drill rigs (2.5 ton)
- Water trucks (2,500 gallon)
- Dump trucks
- Ditching machines
- D-8 Dozer
- Pickup trucks
- Crew trucks

Construction Schedule

Construction of the pipeline protection facilities would occur beginning October 22, 2012, and ending December 5, 2012 (SCE, 2012b). Work would be completed by two construction crews with overlapping schedules such that the work would be completed in 36 days, with one crew working 36 days and the other working 18 days (concurrently). Table 2 shows the pipeline protection activity along with the construction activities for the Segment 3B transmission line and Highwind Substation. As shown, the pipeline protection construction activities would overlap with the Segment 3B transmission line construction activities;

Highwind Substation would be completed prior to the start of pipeline protection construction (SCE, 2012b).

Table 2. Construction Schedule for Segment 3B Project Elements

Task	Start	End	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12
Pipeline Protection	10-22-12	12-05-12										
Highwind Substation	03-12-12	10-19-12										
Segment 3B Transmission Line	03-02-12	12-17-12										

Source: SCE, 2012b – Figure 1, Project Schedule – Segment 3B.

Construction Personnel and Equipment Vehicle Trips

Each crew would be comprised of two pickup trucks (one for general use and one for inspections), one crew truck, and one water truck. Construction materials would be carried in the pickup and/or crew trucks; therefore, no separate haul vehicles would be needed. Similarly, fuel for on-site equipment would be transported on site in appropriate containers in the pickup and/or crew trucks; therefore, no separate fuel trucks would be needed.

It is assumed that workers would commute from local area hotels in Tehachapi, California to a central meeting location, such as the Windhub Substation. The estimated distance of this commute is approximately 20 miles one-way on paved roads for a daily round-trip commute of 40 miles per day. At Windhub Substation the workers would load trucks with equipment and fuel and then proceed to the work site. Since the work would be occurring in a linear fashion, off-road vehicle trip distances are based on the average of the total distance to each end of the Project from Windhub Substation. The estimated mileage values are as follows (SCE, 2012b):

- Windhub Substation to west end of Project: 6.6 miles (5.2 miles paved, 1.4 miles unpaved)
- Windhub Substation to east end of Project: 2.8 miles (1.9 miles paved, 0.9 miles unpaved)

Therefore, the average travel distance would be 4.7 miles, of which 3.5 miles would be paved and 1.2 miles unpaved. Table 3 provides a summary of the anticipated vehicles and equipment to be used on the Project, including estimates of vehicle mileage and equipment usage durations.

Table 3. Vehicle and Equipment Summary for the Pipeline Protection Facilities

Vehicle/ Equipment Type	Fuel Type	Estimated Horsepower	Worker commute (Paved) (miles) ¹	Mobilization to Site (Paved) (miles) ²	Mobilization to Site (Unpaved) (miles) ²	Travel Along Project Site (Unpaved) (miles) ³	Total Travel on Paved Roads (miles)	Total Travel on Unpaved Roads (miles)	Equipment Operation (Hours)
Pickup Truck	Gas	250	4,320	378	129.6	444	4,698	574	---
Crew Truck	Gas	275	2,160	189	64.8	1,840	2,349	1,905	---
Water Truck (2500 gal) ⁴	Diesel	260	0	189	64.8	1,080	189	1,145	---
Drill Rig (2.5 ton)	Diesel	250 (truck)	0	0	0	0	0	53	---
	Diesel	150 (drill)	0	0	0	0	0	0	268
Ditcher	Diesel	60	0	0	0	0	0	0	129
D-8 Dozer	Diesel	310	0	0	0	0	0	0	50

Source: SCE, 2012b – Table 1.

Notes:

- (1) Assume worker commute is from a hotel in Tehachapi, CA to Windhub Substation. One-way distance of approximately 20 miles (40 miles round trip per day).
- (2) Assume worker travel from Windhub Substation to work site of approximately 4.7 miles (3.5 miles paved, 1.2 miles unpaved). This represents average travel distance between Windhub substation and the west end of the Project, and Windhub Substation and the east end of the Project.
- (3) Assume travel along the Project area during the course of construction in addition to mobilization mileage to site.
- (4) Water truck assumed to be the same as or similar to a Ford F-650, 2,500-gallon truck, 260 HP.

C. Evaluation of Modifications

After review of the Final EIR, it was determined that the proposed modifications would not result in any new or substantially different environmental impacts, as discussed below. Those environmental issue areas where a potential change in the nature or magnitude of an impact could occur as a result of the proposed modifications are discussed in Section C.1 and are indicated in Table 4 below. Those issue areas for which it was determined that no change in impacts would occur as a result of the proposed modifications are discussed in Section C.2.

Table 4. Environmental Issue Areas Where Potential Change May Occur

<input type="checkbox"/> Agricultural Resources	<input checked="" type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> Biological Resources
<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology/Soils/Paleontology	<input type="checkbox"/> Hazards and Hazardous Materials
<input checked="" type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Land Use	<input type="checkbox"/> Mineral Resources
<input checked="" type="checkbox"/> Noise	<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities/Service Systems	<input checked="" type="checkbox"/> Visual Resources

C.1 Issue Areas Where Modifications Result in a Potential Change in Impacts

Air Quality

Per the Final EIR, within Kern County, where the gas pipeline protection facility work would be occurring, mitigated air quality emissions were determined to be less than significant. However, the nitrogen oxide (NOx) and particulate matter (PM10) emissions were determined to be relatively close to the Kern County Air Pollution Control District’s annual significant thresholds. As such, detailed information regarding the construction schedule for the pipeline protection facilities showing any overlapping of construction activities (Table 2), as well as details regarding the additional construction equipment and vehicle use associated with the pipeline protection facilities construction (see Section B) was analyzed to make a clear determination as to whether or not there may be new or substantially different air quality impact. Based on the information provided, an independent assessment of the air quality impacts within Kern County for the year 2012 was performed.

From this assessment it has been determined that the additional on-road and off-road travel associated with the pipeline protection facilities work would increase NOx by less than one ton. As shown in Final EIR Table C.2-16 (Proposed Project Construction Emissions/KCAPCD Regional Emissions Threshold Comparison), the total original Project emissions without the additional work totaled 17.4 tons of NOx with a significance threshold of 25 tons, providing for a margin of 7.6 tons. Since the new work will result in the

addition of less than a ton of NO_x, impacts would remain less than significant with implementation of all adopted mitigation measures (Mitigation Measures A-1a through A-1i).

For PM₁₀, the issue is the unpaved road travel. Assuming the same unpaved road controlled emissions factor (0.46 lb/mile), the additional PM₁₀ emissions associated with the pipeline protection facilities construction total approximately 0.94 tons (0.85 being the unpaved road dust emissions). As shown in Final EIR Table C.2-16 (Proposed Project Construction Emissions/KCAPCD Regional Emissions Threshold Comparison), the total original Project emissions without the additional work totaled 13.0 tons of PM₁₀ with a significance threshold of 15 tons, providing for a margin of 2.0 tons. Since the new work will result in the addition of less than a ton of PM₁₀, impacts would remain less than significant with implementation of all adopted mitigation measures (Mitigation Measures A-1a through A-1i).

Biological Resources

The proposed pipeline protection facilities would occur along the existing PG&E and EPNG natural gas pipeline ROW. This area is located in close proximity to the existing Segment 3B alignment; however, portions of the proposed pipeline protection facilities work would occur in areas not previously surveyed as part of the Segment 3B work package. In order to document biological conditions of these areas, SCE conducted reconnaissance-level surveys in 2011 along the proposed pipeline protection facilities work areas. These surveys included all areas subject to Project disturbance, including a 500-foot buffer. The results of these surveys, as well as supporting literature reviews, are summarized in the Biological Survey Report included as Attachment B to SCE's Addendum Request (SCE, 2011). SCE also reviewed the data obtained from extensive focused pre-construction surveys for the Segment 3B alignment conducted in 2010 and 2011. Aspen Environmental Group conducted reconnaissance-level surveys of the Project area in February and March 2012 to verify conditions in the area, including the areas associated with the proposed pipeline protection facilities.

In addition, a literature review was performed as part of the pending biological reviews for Segment 3B, which included reviewing the Antelope Transmission Project, Segments 2 & 3 Final Environmental Impact Report, California Natural Diversity Database (CNDDDB) Rarefind 3 (2011), and the California Native Plant Society Online Inventory of Rare and Endangered Plants of California (online edition, v7-10a; <http://www.cnps.org/inventory>). Applicable previous special-status species surveys completed for Segment 3B were also reviewed, including the following:

- ICF. 2011gt. *2011 Draft Southern California Edison Antelope Transmission Project, Focused Survey Report Special-Status Plant Species Segment 3B*. October. Prepared for Southern California Edison, Brea, California.
- ICF. 2011gv. *Preconstruction Biological Survey Report for Southern California Edison's Antelope Transmission Project, Segment 3B Wilderness Line Modifications, Located West of the City of Mojave, Kern County, California*. November. Prepared for Southern California Edison, Brea, California.
- ICF. 2011gw. *Results of a Preconstruction Survey for Burrowing Owl (Athene cunicularia) for Southern California Edison's Antelope Transmission Project, Segment 3B Wilderness Line Modifications, Located West of the City of Mojave, Kern County, California*. November. Prepared for Southern California Edison, Brea, California.
- ICF International and Bloom Biological, Inc. (ICF and Bloom). 2011d. *Southern California Edison Antelope Transmission Project, 2011 Focused Survey Report for Swainson's Hawk, Segment 3B*. October. Irvine, CA. Prepared for Southern California Edison, Brea, CA.

- ICF International and ECORP Consulting, Inc. (ICF and ECORP). 2011b. *Southern California Edison Antelope Transmission Project, 2011 Focused Survey Report for Desert Tortoise, Segment 3B*. August. Irvine, CA. Prepared for Southern California Edison, Brea, CA.
- ICF and ECORP. 2011c. *Southern California Edison Antelope Transmission Project, 2011 Focused Survey Report for Mohave Ground Squirrel, Segment 3B*. September. Irvine, CA. Prepared for Southern California Edison, Brea, CA.
- LSA. 2010a. *Preconstruction Desert Tortoise Survey, Antelope Transmission Project, Segments 2 and 3-Addressing Segment 3B*. September.
- LSA. 2010b. *Preconstruction Mohave Ground Squirrel Trapping Results, Antelope Transmission Project, Segments 2 and 3-Addressing Segment 3B*. September.
- LSA. 2010c. *Preconstruction Swainson's Hawk Survey, Antelope Transmission Project, Segments 2 and 3-Addressing Segment 3B*. September.
- LSA. 2010d. *Preconstruction Burrowing Owl and American Badger Burrow Survey, Antelope Transmission Project, Segments 2 and 3-Addressing Segment 3B*. September.
- LSA. 2010e. *Preconstruction Special-Interest Plant Species Survey, Antelope Transmission Project, Segments 2 and 3 (Addressing Segment 3B)*. July.

Biological resources found to be present within the proposed pipeline protection facilities area were largely consistent with those described in the Antelope Transmission Project, Segments 2 & 3 Final EIR. However, surveys of this work area identified two previously unreported sensitive species. These included ring-tailed cat, a State Fully Protected Species, and Bakersfield cactus, a State and federally listed species. These species were detected near the proposed pipeline protection facilities work area during pre-construction surveys of the Segment 3 work area. Neither ring-tailed cat nor Bakersfield cactus species were addressed in the Antelope Transmission Project, Segments 2 & 3 Final EIR; however, these species have only recently been documented in the region.

The additional construction required for installation of the pipeline protection facilities would result in a net increase in the amount of habitat subject to Project disturbance but is not expected to result in impacts that are inconsistent with those described in the Antelope Transmission Project, Segments 2 & 3 Final EIR. Furthermore, it is not expected that the proposed pipeline protection facilities modifications work would result in impacts to other biological resources in a manner that conflicts with the findings of the Antelope Transmission Project, Segments 2 & 3 Final EIR. Similarly, it is not expected that construction activities would result in impacts to the ring-tailed cat or Bakersfield cactus. SCE would implement APMs and approved mitigation measures identified in the Antelope Transmission Project, Segments 2 & 3 Final EIR. These include:

- APM BIO-1: Preconstruction biological clearance surveys
- APM BIO-2: Minimize vegetation removal and permanent loss at construction sites
- APM BIO-3: Avoid impacts to streambeds and banks of streams
- APM BIO-4: Use Best Management Practices (BMPs)
- APM BIO-5: Assign Biological Monitors to the project
- APM BIO-6: Prepare and implement a Worker Environmental Awareness Program (WEAP)
- APM BIO-7: Purchase lands or otherwise enhance habitat to compensate for any significant and unavoidable impacts to special-status resources
- APM BIO-8: Conduct project-wide raptor surveys and remove trees, if necessary, outside the nesting season (February 1 – August 31)
- Mitigation Measure B-3a: Avoid desert wash habitat
- Mitigation Measure B-3b: Preserve off-site desert wash habitat
- Mitigation Measure B-4a: Avoid Joshua tree and juniper woodland habitat
- Mitigation Measure B-4b: Preserve off-site Joshua tree woodland and juniper woodland habitat

- Mitigation Measure B-6a: Obtain technical assistance from the USFWS for desert tortoise
- Mitigation Measure B-6b: Conduct focused clearance surveys in designated areas
- Mitigation Measure B-7a: Conduct pre-construction surveys for Swainson's Hawks
- Mitigation Measure B-9a: Avoid construction during the breeding season (April 15 to August 31)
- Mitigation Measure B-9b: Conduct pre-construction surveys at Amargosa Creek crossing and Oak Creek
- Mitigation Measure B-10a: Conduct focused surveys for Mohave ground squirrels
- Mitigation Measure B-10b: Implement construction monitoring and Worker Environmental Awareness Program
- Mitigation Measure B-10c: Preserve off-site habitat for Mohave ground squirrel
- Mitigation Measure B-13c: Minimize impacts to montane scrub and juniper woodland habitats
- Mitigation Measure B-13d: Preserve off-site montane scrub and juniper woodland habitats
- Mitigation Measure B-17: Conduct pre-construction surveys and monitoring for breeding birds
- Mitigation Measure B-19a: Implement CDFG protocol for burrowing owls
- Mitigation Measure B-19b: Compensate for loss of burrowing owl habitat
- Mitigation Measure B-20a: Avoid nesting season for raptors
- Mitigation Measure B-20b: Conduct pre-construction surveys for nesting raptors
- Mitigation Measure B-26: Passively relocate American badgers during the non-breeding season (February-May)
- Mitigation Measure B-27a: Avoid creating barriers to movements
- Mitigation Measure B-27b: Invasive weed prevention

In addition, as part of the existing Segment 3B work package, SCE has implemented a plan to identify and avoid populations of Bakersfield cactus that may occur in the ROW. This plan was developed to support the Antelope Transmission Project, Segments 2 & 3 Final EIR and would be implemented during the proposed pipeline modification work. This plan involved extensive coordination with the CDFG, USFWS, and CPUC. Based on the existing conditions identified during surveys of the work area and the existing measures proposed by SCE, the proposed modification would not introduce any new or substantially different impacts to biological resources and no new mitigation measures would be necessary.

Cultural Resources

Since the Final EIR prepared in December 2006, SCE has conducted additional cultural resources work for Segment 3B in support of the proposed pipeline protection facilities, as well as because of changes in engineering design (e.g., access roads, gas line disturbance areas, staging areas, wire setup sites, tower construction yards, vehicle pullouts, etc.). Reports completed specifically covering the areas impacted by the proposed pipeline protection facilities include the following:

- Pacific Legacy, 2012. Letter Report: Confidential Supplemental Archaeological Survey Report for El Paso Natural Gas Company Protection Areas Near Segment 3B Tehachapi Renewable Transmission Project, Kern County, CA.
- Pacific Legacy, 2012. Letter Report: Confidential Supplemental Archaeological Survey Report For Pacific Gas & Electric Company Protection Areas Near Segment 3B Tehachapi Renewable Transmission Project, Kern County, CA.

In addition, several other cultural resources reports have also been completed since 2006, including:

- Jackson, Tom, 2012. California Register of Historical Resources Evaluation of Eligibility, Assessment of Potential Impacts and Mitigation Plan for Archaeological Site CA-KER-982, Kern County, CA.

- Pacific Legacy, 2011. Extended Phase I Excavations for Five Sites (CA-KER-982, CA-KER-2434, CA-KER-7054, CA-KER-7055, and PL-SCE-Tehachapi-3B-01) Segment 3B, Tehachapi Renewable Transmission Project, Kern County, California. Submitted to Southern California Edison, Monrovia, CA
- Pacific Legacy, 2012. Letter Report: Confidential Supplemental Archaeological Survey Report for Segment 3B, Tehachapi Renewable Transmission Project, Kern County, CA.
- Pacific Legacy, 2012. Letter Report: Supplemental Archaeological Survey Report and Cultural Resources Management Plan, Tehachapi Renewable Transmission Project Segment 3B, Kern County, CA.
- Pacific Legacy, 2012. Construction Phase Management Plan for Cultural Resources Associated with the Southern California Edison Tehachapi Renewable Transmission Project, Segment 3B, Kern County, CA.
- Pacific Legacy, 2011 Supplemental Archaeological Survey Report and Cultural Resources Management Plan, Tehachapi Renewable Transmission Project Segment 3B, Kern County, California. Submitted to Southern California Edison, Monrovia, CA.
- Pacific Legacy, 2012. Summary of Mitigation of Adverse Impacts to Archaeological Site CA-KER-7055 (AP3-132) for the Southern California Edison Company, Tehachapi Renewable Transmission Project Segment 3B, Kern County, California. Submitted to Southern California Edison, Monrovia, CA.
- Panich, Lee and John Holson, 2010. California Register of Historical Resources Evaluation of CA-KER-7687H for the Southern California Edison Company Tehachapi Renewable Transmission Project Segment 3B, Kern County, California. Submitted to Southern California Edison, Monrovia, CA.

These reports have been independently reviewed by Aspen’s cultural resources subconsultant, Applied EarthWorks, Inc. Based on this review, Applied EarthWorks concurs with the conclusions of these studies which indicate that the Project, with the addition of the pipeline protection facilities, would not result in any new significant impacts or result in any substantial increase in previously identified cultural resources impacts. Implementation of approved mitigation measures would ensure impacts are less than significant and no new mitigation measures are required.

Hydrology and Water Quality

The proposed modifications would result in additional surface and subsurface disturbance as a result of the construction of new roads and improvements to existing roads, and from trenching and drilling activities associated with the installation of pipeline protection facilities, all of which could contribute to the degradation of surface water quality through erosion and sedimentation and could result in possible groundwater impacts. Erosion and sedimentation impacts would be minimized by the implementation of approved Mitigation Measures H-1a through H-1e, as well as the existing Erosion Control and Sedimentation Transport Plan (Mitigation Measure H-1a, APM HYD-2) and the construction Stormwater Pollution Prevention Plan (Mitigation Measures G-2 and H-1a; APMs GEO-3 and HYD-1). As noted in Section B, groundwater could be encountered during drilling associated with the DGR pipeline protection facilities. The pipeline owners’ contractor would determine appropriate drilling methodologies to address groundwater management, including whether dewatering may be required. In addition, per Mitigation Measure H-4, prior to the onset of any construction activities the Applicant (SCE) shall develop and implement a groundwater remediation plan if it is determined that known groundwater resources would be unavoidable during construction. In the event that unknown groundwater resources are encountered or an unplanned disturbance of known resources occurs, the Applicant shall immediately halt the disruptive excavation activity and develop a site-specific remediation plan. This remediation plan may require activities such as bioremediation or other applicable technology, as determined appropriate under site-

specific conditions. Therefore, no new or substantially different hydrology and water quality impacts would occur and no new mitigation measures would be necessary.

Noise

The additional construction required for installation of the pipeline protection facilities would result in a change in the expected noise levels in the area of Segment 3B; however, these activities would be occurring concurrently with the installation of the Segment 3B transmission line such that the incremental increase would be expected to be minimal. Furthermore, implementation of Mitigation Measures N-3a (Provide Advanced Notification of Construction) and N-3b (Implement Best Management Practices for Construction Noise) would reduce the likelihood of substantially disturbing sensitive receptors. The proposed modification would not introduce any new or substantially different noise impacts and no new mitigation measures would be necessary.

Visual Resources

The proposed modifications would occur along Segment 3B between the Windhub and Highwind Substations. As shown in Final EIR Figure C.11-1A, the key observation points (KOPs) in the vicinity include KOP-1 (Highway 58 and Jameson Street), KOP-2 (Pacific Crest National Scenic Trail and Trailhead), and KOP-3 (Oak Creek Road). The proposed pipeline mitigation facilities and access roads are not within the vicinity of any of these KOPs; therefore, no new visual impacts would occur based on these KOPs.

Approximately 8.8 acres of permanent disturbance (new roads and improvements to existing roads) and 7.55 acres of temporary disturbance (overland travel, temporary roads, and work areas) would occur as a result of the proposed modifications (16.35 acres total disturbance during construction). Per Final EIR Table B.3-7, construction of the Segment 3B transmission line would result in the disturbance of 62.8 acres during construction, with 30.3 acres being permanently disturbed. As such, the proposed modifications result in an increase of disturbance in the area of Segment 3B by 26 percent during construction and an increase in permanent disturbance by 29 percent. However, the proposed pipeline mitigation features would generally be placed underground with construction activities resulting in short-term (36 days per Table 2) visual impacts, and the majority of the roads being used are existing or temporary (overland travel). Therefore, the additional visual impacts would be minimal and no new significant impacts would occur. No new mitigation measures are necessary.

C.2 Issue Areas Where Modifications Result in No Change

The proposed modifications would occur in the vicinity of Segment 3B and would result in minimal changes to the overall scale and design of the approved Project. Therefore, potential environmental impacts to agricultural resources, geology, soils and paleontology, hazards and hazardous materials, land use, mineral resources, population and housing, public services, traffic/transportation, and utilities and service systems are not expected to change or increase in severity compared to what was described for in the Final EIR of the approved Project.

D. Other CEQA Considerations

D.1 Significant Unavoidable Impacts

The environmental impacts of the approved Project are described in detail in Section C (Environmental Analysis) of the Final EIR, and for the proposed modifications, in Section C (Evaluation of Modifications)

of this Addendum. All the significant and unavoidable (Class I) impacts identified for the approved Project, as discussed in Section E.1 (Significant Unavoidable Impacts) of the Final EIR, would be the same as for the approved Project with implementation of the proposed modifications.

D.2 Irreversible and Irretrievable Commitment of Resources

As described in the Final EIR, the approved Project would result in the irreversible and irretrievable commitment of resources. The proposed modifications, minor in comparison, would be similar to the approved Project. Construction of the proposed modification identified by SCE would result in the same irretrievable commitment of natural resources as described in the Final EIR. Please see Section E.2 (Irreversible and Irretrievable Commitment of Resources) of the Final EIR for a complete discussion of irreversible and irretrievable commitment of resources for the approved Project.

D.3 Growth-Inducing Effects

As described in the Final EIR, the primary purposes of the approved Project are to accommodate potential renewable power generation in the Tehachapi area, prevent overloading of existing transmission facilities, and comply with reliability criteria for transmission planning. The proposed modifications serve the same purposes and are minor in comparison to the approved Project. Construction and operation of the proposed modification identified by SCE would not change the growth-inducing effects described for the approved Project in the Final EIR. Please see Section E.3 (Growth-Inducing Effects) of the Final EIR for a complete discussion of growth-inducing effects for the approved Project.

D.4 Cumulative Impact Analysis

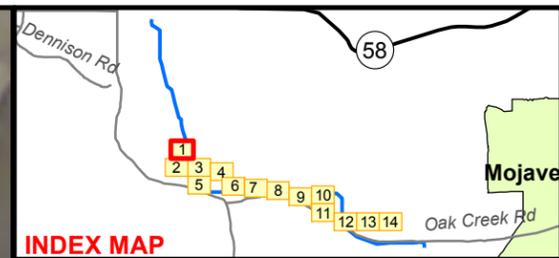
Construction and operation of the proposed modification identified by SCE would not change the cumulative effects described for the approved Project in the Final EIR. Please see Section E.5 (Cumulative Impact Analysis by Issue Area) of the Final EIR for a discussion on the impacts of the Project that could potentially be “cumulatively considerable” or might be able to combine with similar impacts of other identified projects in a substantial way.

E. References

- Southern California Edison (SCE). 2011. Request for Environmental Impact Report Addendum for Gas Pipeline Protection Facilities Supporting the Tehachapi Renewable Transmission Project Segment 3B. December 2011.
- _____. 2012a. Antelope Transmission Project, Segments 2 and 3 Addendum for Pipeline Protection Facilities Information Request No. 1 – Responses to Data Request #1. January 16.
- _____. 2012b. Antelope Transmission Project, Segments 2 and 3 Addendum for Pipeline Protection Facilities Information Request No. 1 – Supplemental Response for Aspen Comment 13. February 3.

Appendix A – Revised Disturbance Maps

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LEGEND

[Yellow Square]	Structures 220 kV
[Blue Line]	Alignment 220 kV
[Green Line]	Rd New Construction Permanent
[Cyan Line]	Rd New Construction Temporary
[Orange Line]	Rd To Improve
[Light Orange Line]	Rd No Improve
[Purple Line]	Rd Overland Travel
[Blue Line with Dashed]	Rd New Const. Permanent - Gas Line Mitigation
[Green Line with Dashed]	Rd No Improve - Gas Line Mitigation
[Red Line with Dashed]	Rd To Improve - Gas Line Mitigation
[Purple Line with Dashed]	Rd Overland Travel - Gas Line Mitigation
[Black Dashed Line]	Road Edge
[Black Dotted Line]	Road Grading Area
[Yellow Area]	BMP Area
[Green Area]	Crane Pad
[Purple Area]	Culvert Replacement
[Pink Area]	Drainage Repair
[Red Area]	Guard Pole
[Orange Area]	Pullout
[Orange Hatched Area]	Structure Work Area
[Pink Area]	Turning Radius Area
[Brown Area]	Wire Setup Site
[Orange Line]	Gradient Control Mat (GCM)
[Circle with Cross]	Ground Rod (GR)
[Green Line]	Zinc Ribbon (ZR)
[Green Line]	Above Ground Pipe (AGP)
[Purple Line]	El Paso Gas Line 1901
[Blue Line]	El Paso Gas Line 1903
[Green Line]	El Paso Gas Line 1903 Approx. (no survey)
[Pink Line]	PG&E Gas Line 300A
[Cyan Line]	PG&E Gas Line 300B
[Light Green Line]	PG&E Distribution Line
[Purple Hatched Area]	GR Disturbance Area
[Red Hatched Area]	GCM/ZR/AGP Disturbance Area

NOTES:

1. PLS-CADD Model Revision R19.
2. Disturbance data dated: 05-08-2011, revised 11/21/2011.
3. Kern Co. Image Courtesy USDA National Agricultural Imagery Program, 2010.

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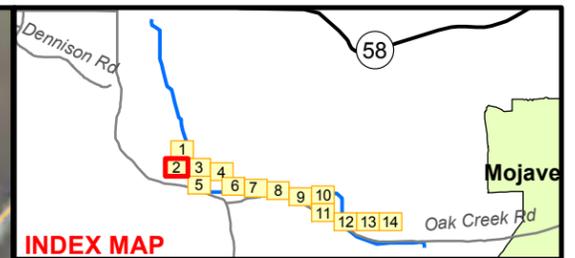
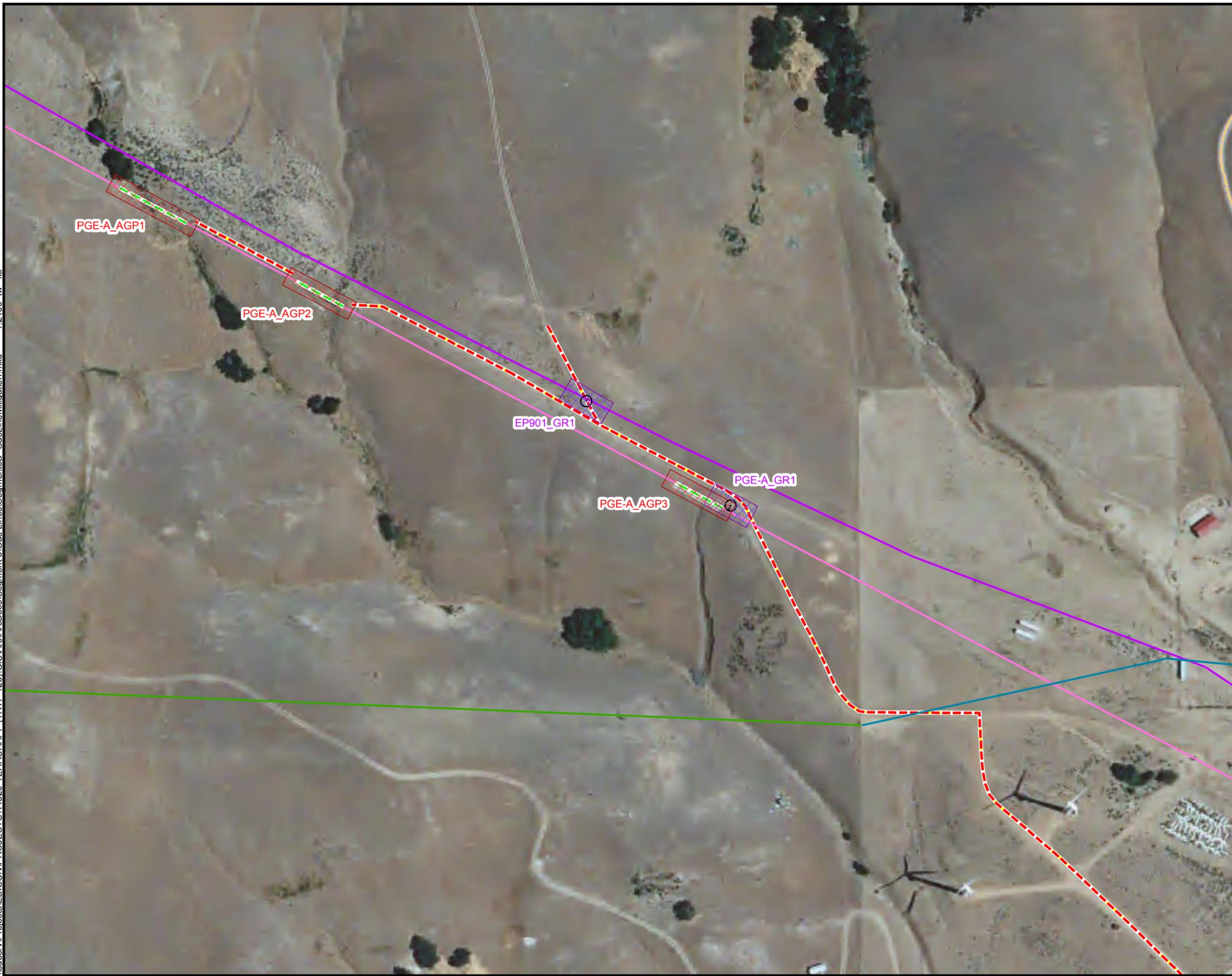
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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LEGEND

	Structures 220 kV
	Alignment 220 kV
	Rd New Construction Permanent
	Rd New Construction Temporary
	Rd To Improve
	Rd No Improve
	Rd Overland Travel
	Rd New Const. Permanent - Gas Line Mitigation
	Rd No Improve - Gas Line Mitigation
	Rd To Improve - Gas Line Mitigation
	Rd Overland Travel - Gas Line Mitigation
	Road Edge
	Road Grading Area
	BMP Area
	Crane Pad
	Culvert Replacement
	Drainage Repair
	Guard Pole
	Pullout
	Structure Work Area
	Turning Radius Area
	Wire Setup Site
	Gradient Control Mat (GCM)
	Ground Rod (GR)
	Zinc Ribbon (ZR)
	Above Ground Pipe (AGP)
	El Paso Gas Line 1901
	El Paso Gas Line 1903
	El Paso Gas Line 1903 Approx. (no survey)
	PG&E Gas Line 300A
	PG&E Gas Line 300B
	PG&E Distribution Line
	GR Disturbance Area
	GCM/ZR/AGP Disturbance Area

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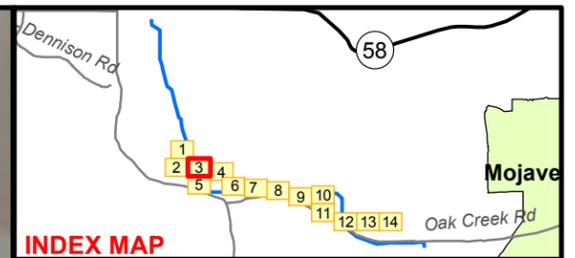


**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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- Rd No Improve - Gas Line Mitigation
- Rd To Improve - Gas Line Mitigation
- Rd Overland Travel - Gas Line Mitigation
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- Road Grading Area
- BMP Area
- Crane Pad
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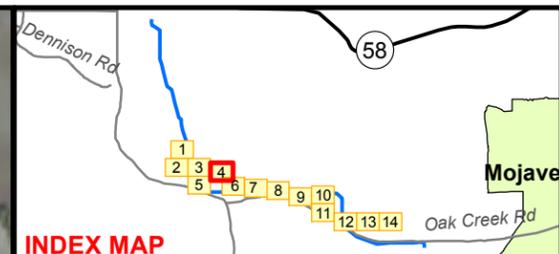
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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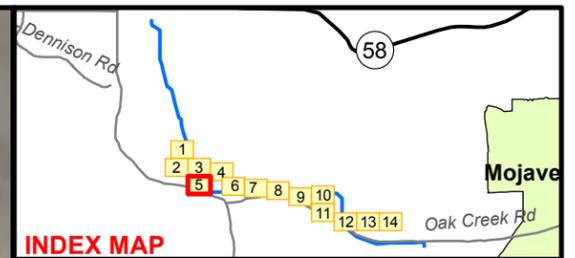
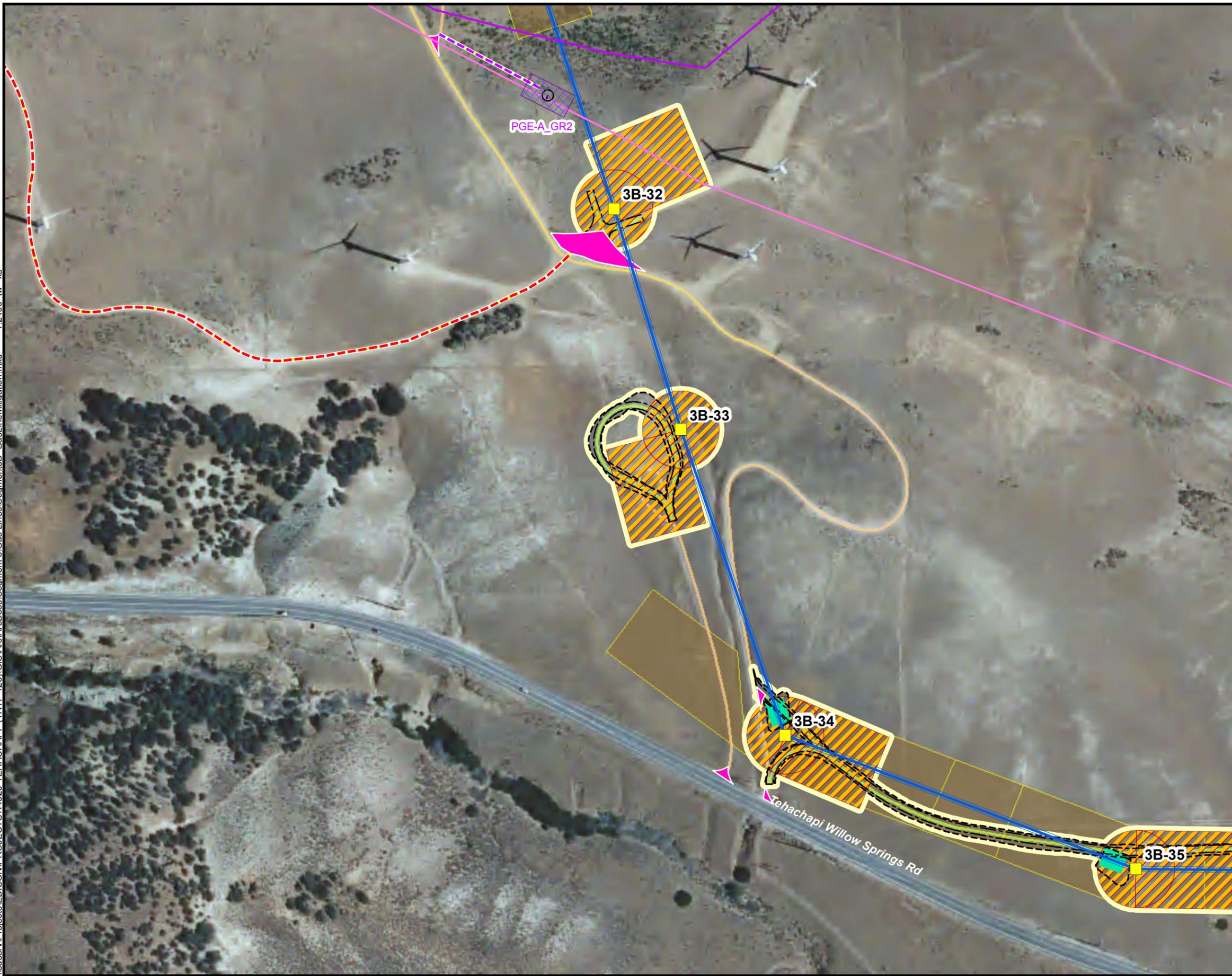
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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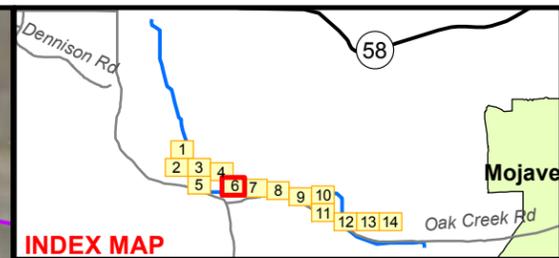
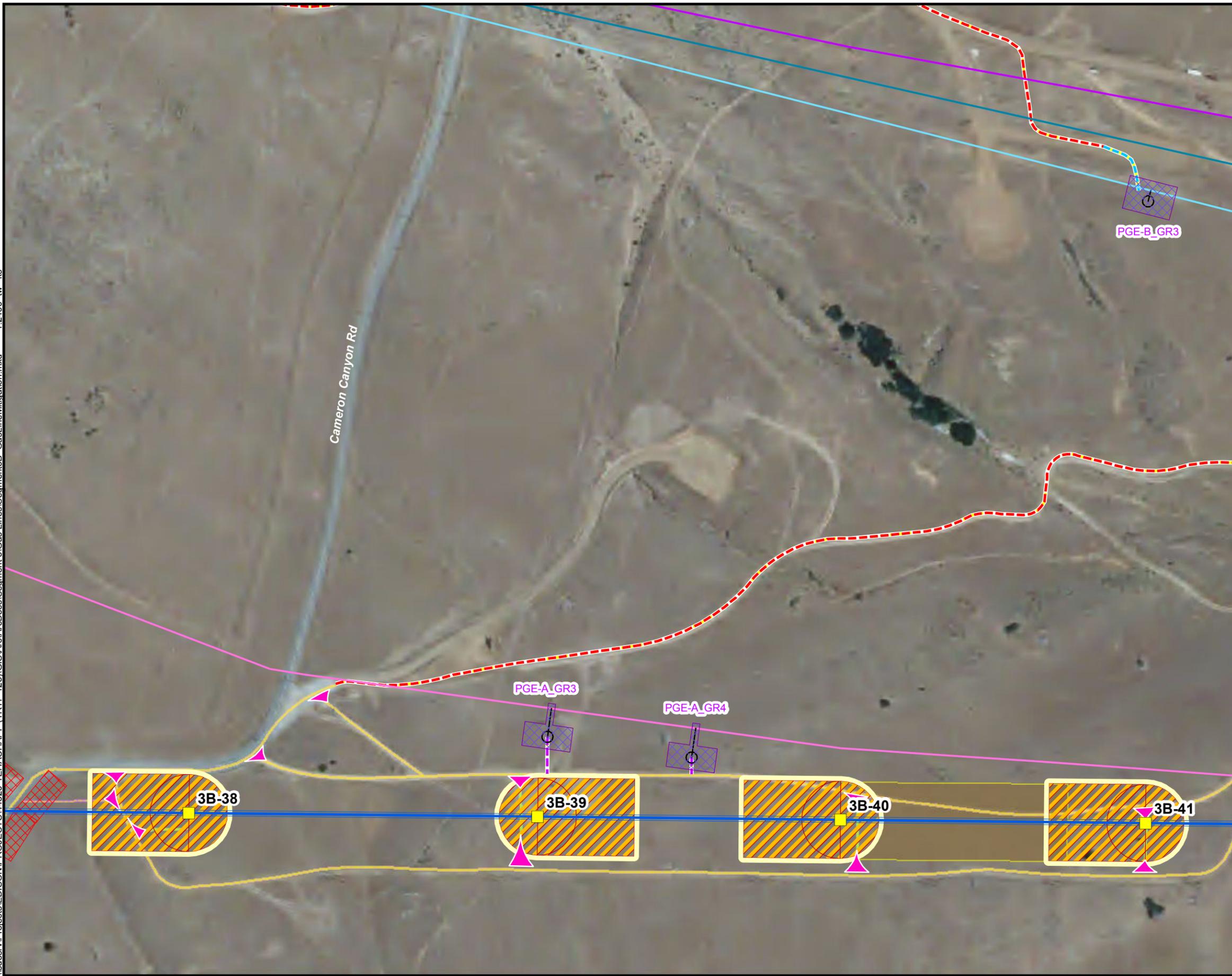
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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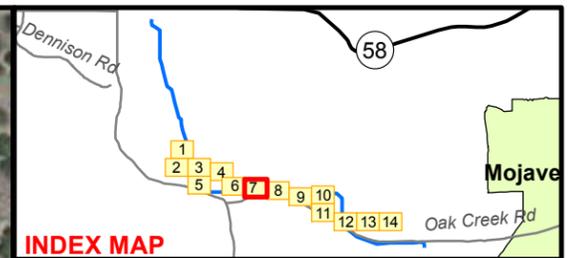
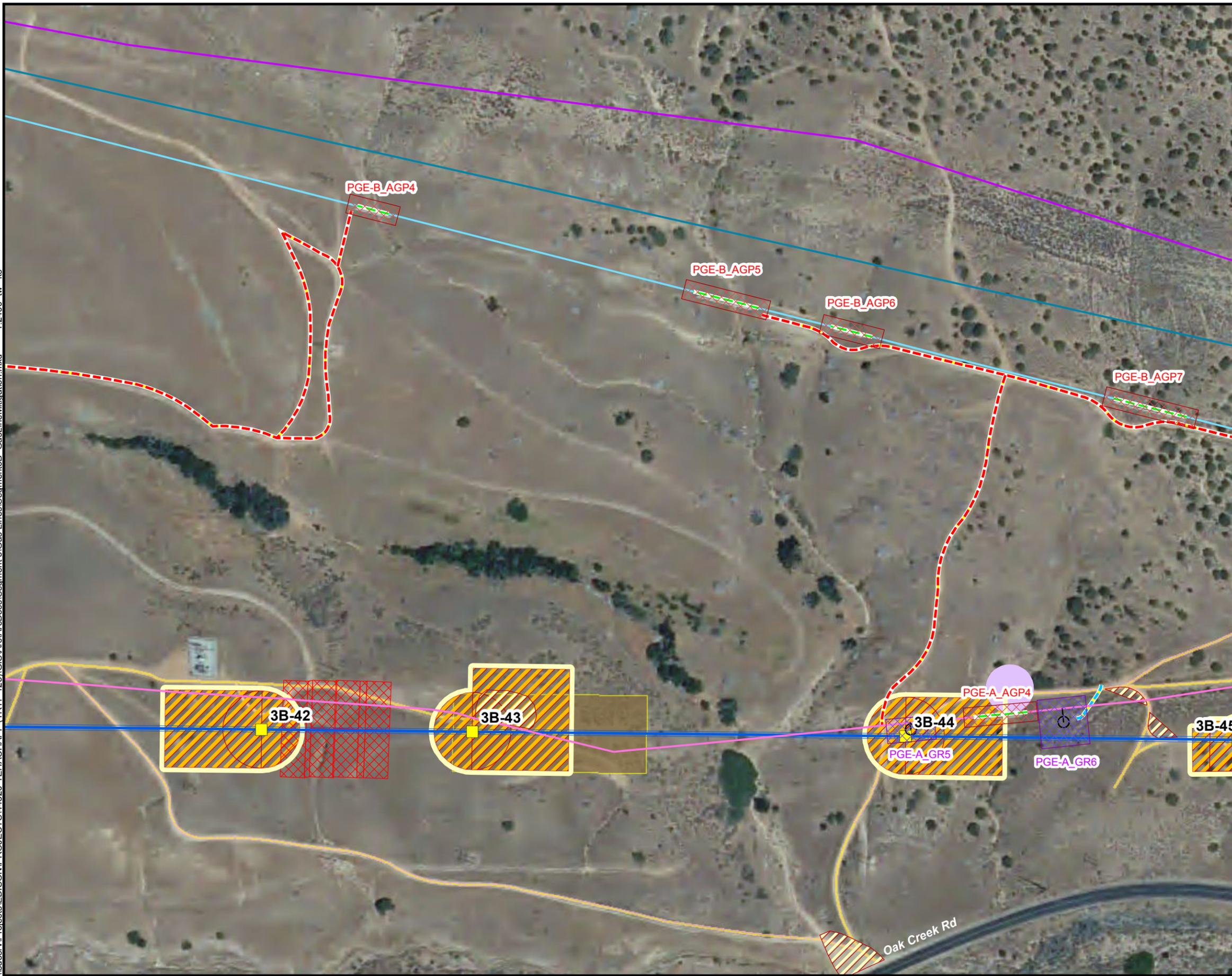


**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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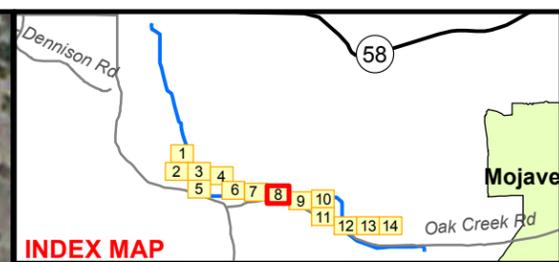


**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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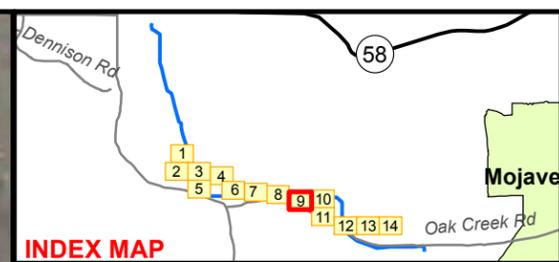
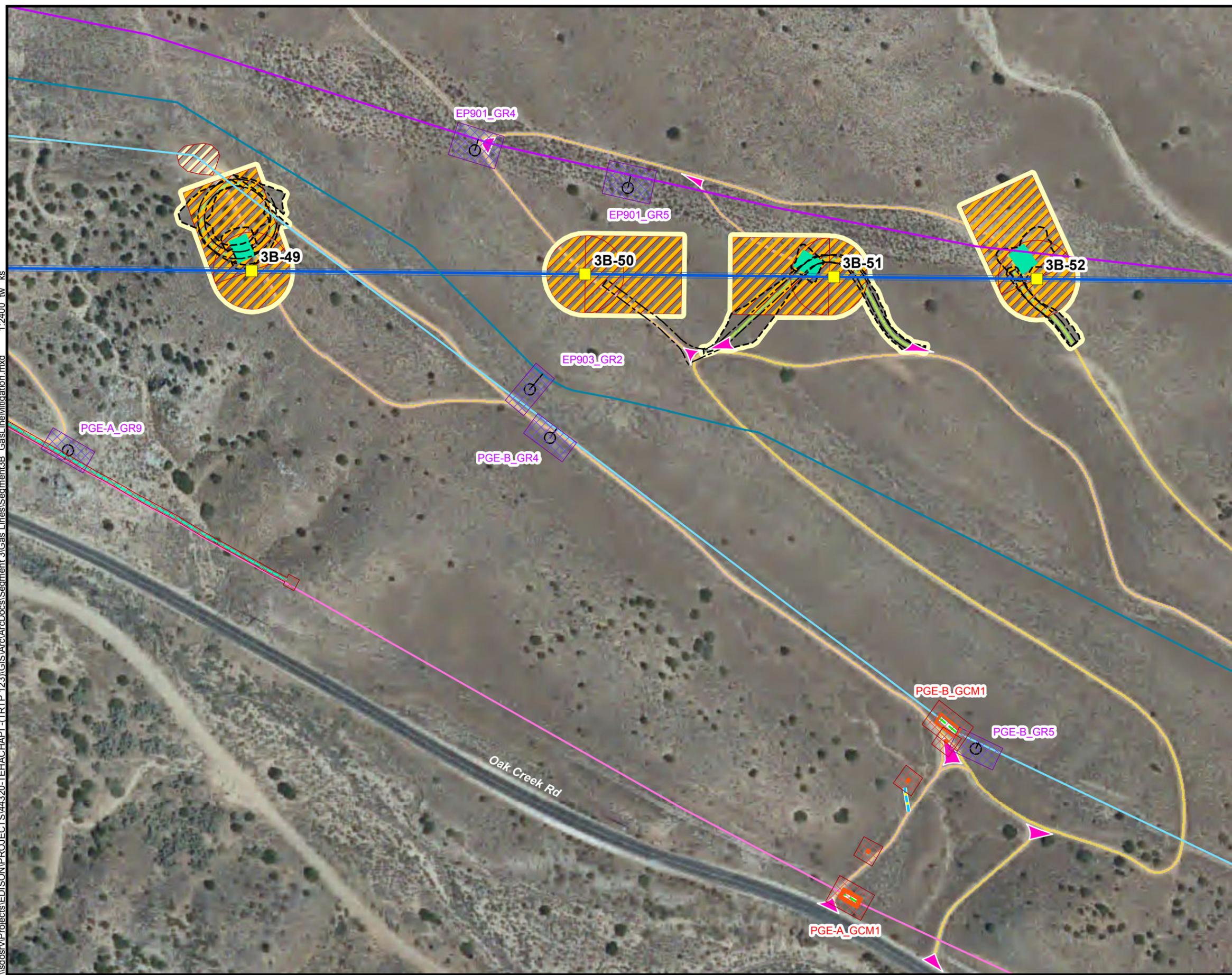
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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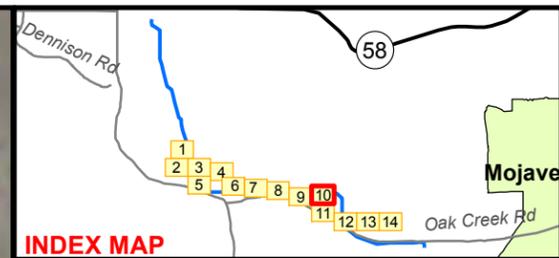
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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- LEGEND**
- Structures 220 kV
 - Alignment 220 kV
 - Rd New Construction Permanent
 - Rd New Construction Temporary
 - Rd To Improve
 - Rd No Improve
 - Rd Overland Travel
 - Rd New Const. Permanent - Gas Line Mitigation
 - Rd No Improve - Gas Line Mitigation
 - Rd To Improve - Gas Line Mitigation
 - Rd Overland Travel - Gas Line Mitigation
 - Road Edge
 - Road Grading Area
 - BMP Area
 - Crane Pad
 - Culvert Replacement
 - Drainage Repair
 - Guard Pole
 - Pullout
 - Structure Work Area
 - Turning Radius Area
 - Wire Setup Site
 - Gradient Control Mat (GCM)
 - Ground Rod (GR)
 - Zinc Ribbon (ZR)
 - Above Ground Pipe (AGP)
 - El Paso Gas Line 1901
 - El Paso Gas Line 1903
 - El Paso Gas Line 1903 Approx. (no survey)
 - PG&E Gas Line 300A
 - PG&E Gas Line 300B
 - PG&E Distribution Line
 - GR Disturbance Area
 - GCM/ZR/AGP Disturbance Area

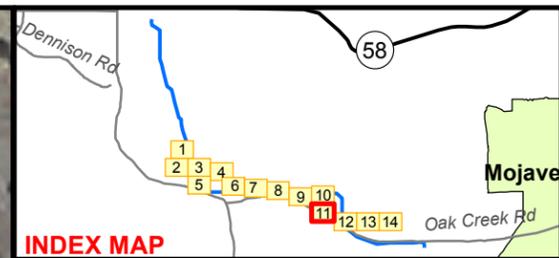
- NOTES:**
1. PLS-CADD Model Revision R19.
 2. Disturbance data dated: 05-08-2011, revised 11/21/2011.
 3. Kern Co. Image Courtesy USDA National Agricultural Imagery Program, 2010.
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
500 kV Transmission Line Project

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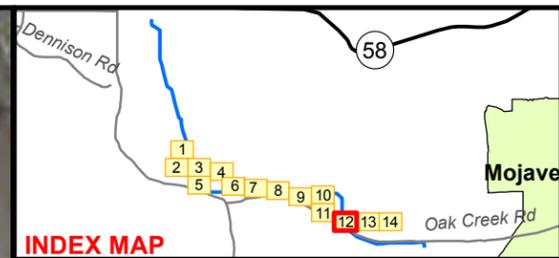
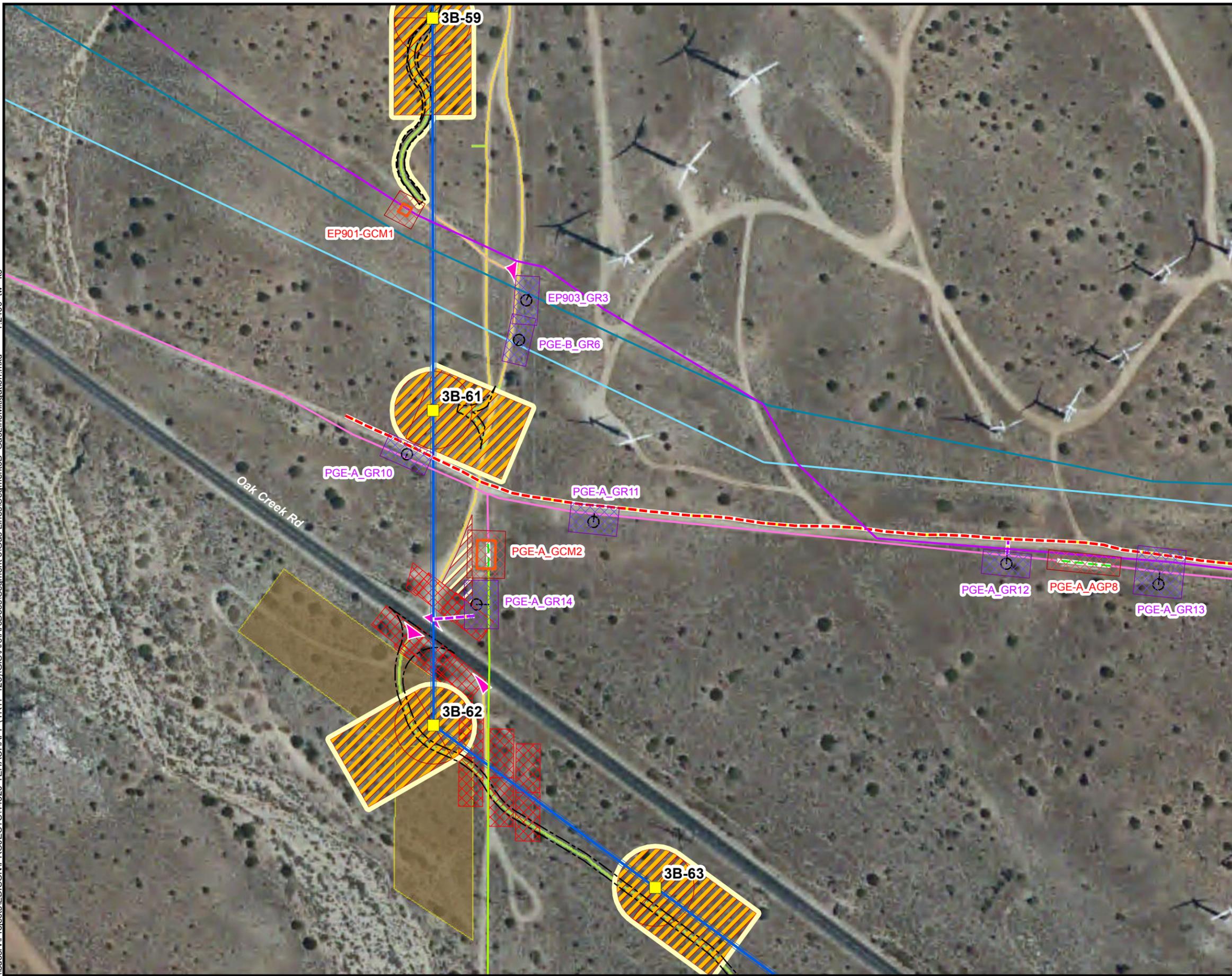
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**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
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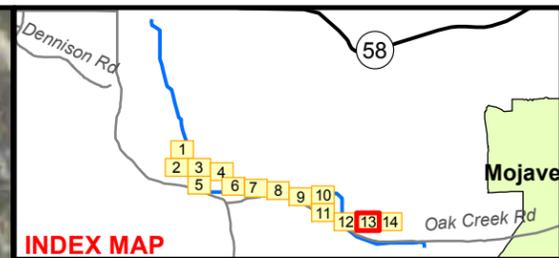
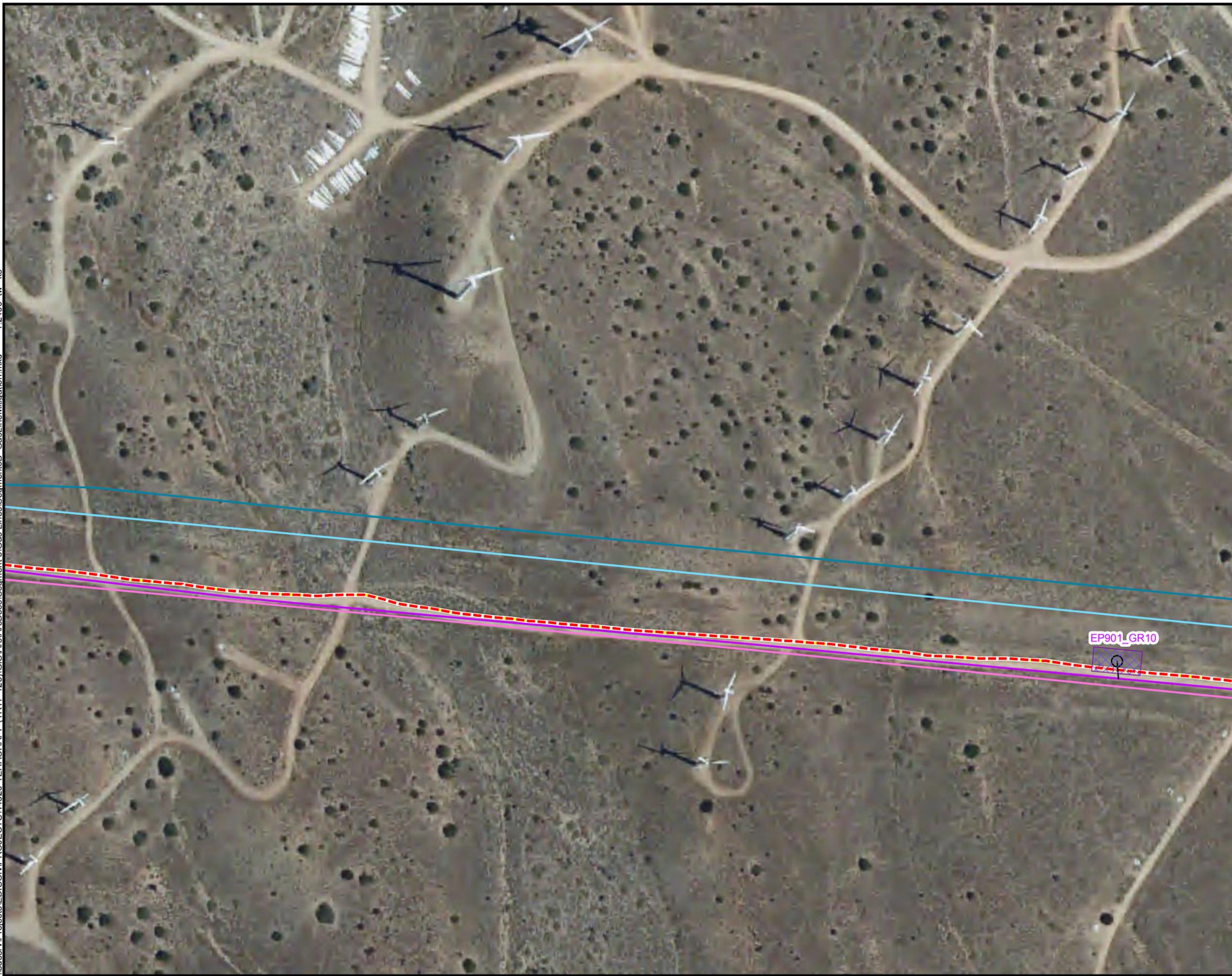


**GAS LINE MITIGATION
SEGMENT 3B**

Southern California Edison TRTP 123
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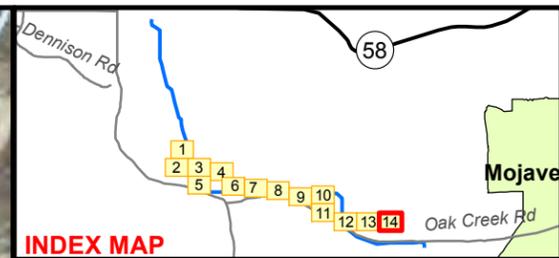
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