

Comment Set E4
 Southern California Edison Company

SCE FOURTH SET OF COMMENTS ON DPV2 DEIR/DEIS

Comment	Section	Page	Line	Comment	Remarks/How Suggested to Resolve
1	ES 1.1	ES-6	Paragraph 2, Bullet 5 Paragraph 2, Line 6	This section summarily describes the “Environmentally Superior Alternative / Environmentally Preferable Alternative” to include the “Proposed West of Devers upgrades, unless determined to be infeasible, in which case the Devers-Valley No. 2 Alternative would be constructed.”	SCE has evaluated the Devers-Valley No. 2 Alternative and agrees with the conclusion of the Commission and BLM that it is an acceptable and viable alternative to the West of Devers Upgrades. Because the Morongo Tribe has informed SCE that its proposed West of Devers Upgrades are not acceptable, SCE has concluded that such upgrades are not feasible. Accordingly, SCE recommends that the CPUC adopt the Devers-Valley No. 2 Alternative in lieu of the West of Devers Upgrades. Adoption of the Devers-Valley No. 2 Alternative will not only allow for completion of the DPV2 project within the current licensing schedule, it will allow SCE and the Tribe to continue to negotiate a new right-of-way agreement independent of the DPV2 licensing schedule.

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SCE FOURTH SET OF COMMENTS ON DPV2 DEIR/DEIS

Comment	Section	Page	Line	Comment	Remarks/How Suggested to Resolve
2	ES 2.2.2	ES-21	Paragraph 2, Line 6	<p>This alternative could require amendments to the SBNF Land Management Plan, the National Monument Proposed Management Plan and an existing MOU between BLM, Forest Service and the Pacific Coast Trail Association.</p> <p>"The Devers-Valley No. 2 Alternative would create permanent impacts to... :Santa Rosa and San Jacinto Mountains National Monument, PCT, SBNF San Jacinto WA, and the Portrero ACEC....impacts to these resources would be significant and unmitigatable. ,</p>	<p>While the DEIR/DEIS identifies that the SBNF Land Management Plan may need to be amended for the SBNF to issue an Record of Decision approving the Devers-Valley No. 2 Alternative (DV No. 2), the DEIR/DEIS must be amended to include all that information necessary for the SBNF to amend the Land Management Plan. SCE has met and consulted with BLM and SBNF representatives regarding these Plans and the MOU. The SBNF confirmed that the DEIR/DEIS correctly states that the DV No. 2 alternative would be inconsistent with the existing SBNF Land Management Plan Scenic Integrity Objective rating of "very high". Thus, the Land Management Plan Scenic Integrity Objective must be amended to a rating of "medium" or "low" to allow for the DV No. 2 line to be constructed across the SBNF. The DEIR/DEIS implies that the SBNF will be making changes to the Land Management Plan to make it consistent with the DV No. 2 transmission line. (p. C-27, "If an amendment is required by the Forest Service, the Forest Service would determine the changes that would be necessary to the desire landscape character") The DEIR/DEIS then goes on to state that project construction could be delayed due to the need for obtaining federal permits. Additionally, the DEIR/DEIS states that while the SBNF would comply with NEPA based upon the Final EIR/EIS for the Project, the SBNF Record of Decision would also address whether the Land Management Plan amendments would be necessary before a Special Use Easement can be issued. (See the last sentence on p. C-26.) This implies a future step where the SBNF would begin a separate process to amend the Land Management Plan to allow for the issuance of a Special Use Easement for the DV No. 2 alternative. However, the DEIR/DEIS's outlined process is inefficient and will significantly delay the project.</p> <p>As indicated previously, SCE prefers that the Final EIR/EIS approve the DV No. 2 alternative. This means that the Final EIR/EIS should address all state and federal agencies permitting needs. Thus, the Final EIR/EIS must include all the information necessary for the SBNF to amend the Land Management Plan Scenic Integrity Objective. Specifically, the Final EIR/EIS must clearly articulate the impacts to the SBNF from a change in the Scenic Integrity Objective rating along the DV No. 2 right of way from "very high" to "low". This change in the Scenic Integrity Objective rating would only be for the DV No. 2 right of way. Then, based upon the Final EIR/EIS, the SBNF Record of Decision would approve two actions: (i) an amendment to the Land Management Plan for this specific project, and (ii) the Special Use Easement for the DV No. 2 transmission line. This process is consistent with the Forest Service's regulations for project specific based Land Management Plan amendments pursuant to 36 C.F.R. Section 219.8(e). SCE understands that the SBNF will also address this issue in their comments on the DEIR/DEIS.</p> <p>On page C-24, section C.4.3.1 correctly states that the DV No. 2 transmission corridor was specifically excluded from San Jacinto Wilderness Area by Congress. However, the first phrase in that sentence should be reworded as the utility right of way is not within a designated wilderness area due to the aforementioned exclusion.</p>
	ES 4.4.2 Alternatives	ES-43 West of Devers	Paragraph 1, Line 8		

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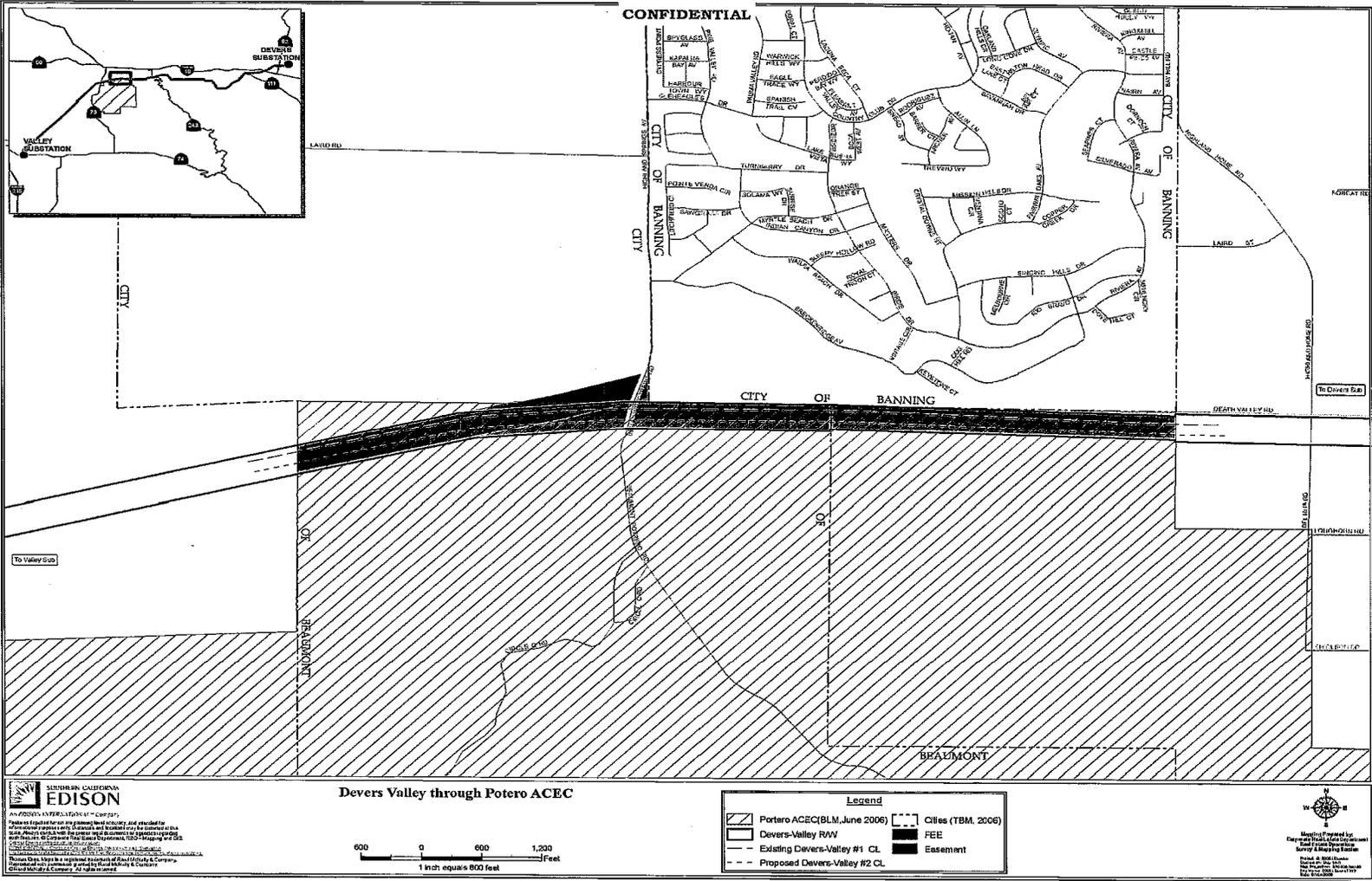
SCE COMMENTS ON DPV2 DEIR/DEIS
 PORTRERO ACEC, AUGUST 2006

E4-3

Section	Page	Line	Comment	Remarks/How Suggested to Resolve
ES4.4.2	ES-43	Paragraph 3, Line 6	The Devers-Valley No. 2 Alternative route proposed by the CPUC in the DEIR/DEIS parallels SCE's Devers-Valley No. 1 line. As the route nears the cities of Beaumont and Banning along the southern San Jacinto foothills, it crosses the current northern boundary of the BLM's Portrero ACEC. SCE has an existing right-of-way (ROW) across the ACEC both in fee and in easement as shown in the enclosed figure. SCE's ROW existing grants allow the construction and operation of the Devers-Valley No. 2 line across the ACEC. The current boundaries of the ACEC were recently expanded to include the area where the lines cross the current ACEC boundaries. SCE had acquired these ROWs prior to the ACEC expansion and is has legal ROW permission to build the Devers–Valley No. 2 line.	SCE believes and requests that the Devers-Valley No. 2 transmission line ROW across the Portrero ACEC should not be under BLM jurisdiction since the ROW was obtained by SCE prior to establishment of the new boundaries that now include the line. Also, SCE' has existing fee and easement ROWs that allow construction of the line.
C.4.3	C-26	Paragraph 1, Line 7		

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E4-3 cont.



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SCE COMMENTS ON DPV2 DEIR/DEIS
 ALLIGATOR ROCK – NORTH OF DESERT CENTER ALTERNATIVE, AUGUST 2006

E4-4

Section	Page	Line	Comment	Remarks/How Suggested to Resolve
ES 1.1	ES-6	Paragraph 2, Bullet 5	<p>This section identifies the Alligator Rock-North of Desert Center Alternative to west of Alligator Rock as the Environmentally Superior Alternative/ Environmentally Preferable Alternative. SCE does not agree with this conclusion and believes the SCE DPV2 line route proposed to be constructed parallel to the DPV1 across the Alligator Rock ACEC will result in a cost savings and less environmental impact for the following reasons:</p> <p>From an engineering standpoint, the proposed Alligator Rock-North of Desert Center Alternative appears feasible. However, the additional 1.2 miles of line length and the higher percentage of deadend towers (compared to the preferred route) will increase the line construction and POW acquisition cost by an estimated \$ 7M.</p> <p>Other engineering considerations include:</p> <ul style="list-style-type: none"> • This route crossed both BLM land and private land. • The cost to construct 12 miles of new access roads along the reroute. • The annual costs to maintain the additional 12 miles of new access roads. • The annual costs to patrol a separate, new 12-mile transmission line corridor. <p>2) Table E-2 presents a comparison of environmental resources for alternatives around Alligator Rock. The North of Desert Center route is selected as the most Environmentally Preferable Alternative because the DEIR/DEIS states it would minimize biological, cultural and wilderness area impacts. The SCE proposed route was selected by SCE because it minimizes biological impacts since it uses existing access (13.1 acres of permanent disturbance vs. 25 acres). The proposed DPV2 tower locations were selected at the same time as the DPV1 tower locations to avoid cultural resources. SCE is not aware of any additional information since construction of the DPV1 line regarding the DPV2 tower locations that makes the sites more environmentally sensitive. Wilderness impacts are mitigated along the SCE proposed route by the existence of the DPV1 line. Visual impacts associated with the North of Desert Center route are significantly greater due to two crossings of I-10 by the route. Table E-2 shows 4 environmental issues preferred for SCE's proposed route versus 3 for the North of Desert Center route. For these reasons, SCE believes that its proposed route in the Alligator Rock ACEC would result in less overall environmental impact than the North of Desert Center route.</p>	<p>SCE requests that the SCE preferred DPV2 line route be approved for construction parallel to the DPV1 line across the Alligator Rock ACEC.</p>
E 2.1.2	E-8			

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SCE COMMENTS ON DPV2 DEIR/DEIS
 ALLIGATOR ROCK - NORTH OF DESERT CENTER ALTERNATIVE, AUGUST 2006

Section	Page	Line	Comment	Remarks/How Suggested to Resolve
			<p>The critical environmental concern identified in the DEIR/DEIS regarding SCE's proposed route parallel to DPV1 across the ACEC is potential impact to cultural resources. When SCE located the DPV1 line in the ACEC, potential DPV2 tower sites were also located along with construction areas. Recently, SCE assembled a team of cultural resource specialists (Mooney, Jones and Stokes), SCE transmission engineering and SCE construction engineering to study the area and develop a construction plan for SCE's proposed route across the ACEC. The results of the plan are attached. The study concludes that the DPV2 line can be constructed and operated on SCE's proposed route if recommendations for protection and avoidance are incorporated in the design and construction of the line. SCE will follow these recommendations if allowed to build on the route.</p>	<p>SCE requests that the SCE preferred DPV2 line route be approved for construction parallel to the DPV1 line across the Alligator Rock ACEC.</p>

E4-4 cont.

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Subject: Analysis and assessment of resource preservation and avoidance measures in support of proposed construction of the Devers-Palo Verde No. 2 transmission line within the Alligator Rock Area of Critical Environmental Concern (ACEC)

E4-5

INTRODUCTION

SCE is applying for a license to build and operate the Devers-Palo Verde No. 2 Transmission Line (DPV-2 T/L) across public and private lands in eastern Riverside County, California. SCE proposes to construct this second line adjacent to the existing Devers-Palo Verde No. 1 transmission line (DPV-1 T/L), in existing right-of-way within an approved high-voltage corridor route. Construction design and engineering for DPV-2 T/L are already prepared for this route. The environmental review process for the proposed project has reached the Draft EIR/EIS stage, and project approval is currently under consideration by the California Public Utilities Commission (CPUC), as lead agency pursuant to the California Environmental Quality Act (CEQA), and the US Department of Interior, Bureau of Land Management (BLM) as lead agency under the National Environmental Policy Act (NEPA).

The DPV-1 T/L corridor passes through the Alligator Rock ACEC. The critical element of concern in this ACEC is a cross section of sites representative of the archaeological spectrum of the Colorado Desert (Swenson, Cone, and Hillier 1986). The Alligator Rock ACEC consists of two archaeological districts that are listed on the National Register of Historic Places (NRHP): North Chuckwalla Mountain Quarry District (CA-RIV-1814), and North Chuckwalla Mountains Rock Art District (CA-RIV-1383). Because the CPUC and BLM view these sites as very sensitive to modern uses including the ongoing operation and maintenance of the DPV-1 T/L and recreational use in the form of camping and vehicular traffic (Swenson et al. 1986:2-3).

The CPUC and BLM have a concern that construction and operation of the DPV-2 T/L immediately adjacent to the DPV-1 T/L could adversely effect significant resources within the Alligator Rock ACEC during construction and incrementally increase the risk of adversely affecting these same resources during operation and maintenance of the additional line.

This letter addresses an analysis of the DPV-2 T/L construction as proposed, and a consideration of resource protection and avoidance measures that can be applied to ensure avoidance of adverse effects to cultural resource sites within the ACEC. This assessment supports a conclusion that the DPV-2 T/L can be built and operated as proposed if recommendations for appropriate protection and avoidance measures are incorporated into the design and construction planning process.

BACKGROUND

Jones & Stokes Associates (JSA) prepared the cultural resource inventory for the proposed DPV-2 T/L project (Eckhardt, Walker, and Carrico 2005), and organized and produced a geographical information system (GIS) project file for the DPV-2 T/L corridor for the area extending from Devers substation to the Colorado River. California Historical Resources Inventory System record search information captured in this file was last updated April 2004 (Eckhardt et al. 2005:25-27). The GIS project file is comprised of georeferenced information for the existing DPV-1 T/L including DPV-1 T/L access roads, boundaries for the proposed DPV-2 T/L right-of-way, global positioning system (GPS) information for all proposed DPV-2 T/L tower locations, stub roads, and temporary construction activity areas, and data from a complete cultural resource inventory of the DPV-2 T/L corridor. These data have been applied in the current analysis of the potential effects of constructing and operating the DPV-2 T/L through the Alligator Rock ACEC.

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JSA was also engaged in monitoring, protection, and assessment efforts in support of recent SCE emergency tower M162-T2 reconstruction activities on the DPV-1 T/L within North Chuckwalla Mountain Quarry District (CA-RIV-1814) of the Alligator Rock ACEC during July 2006 (Eckhardt 2006). The activities associated with reconstruction of DPV-1 tower M162-T2 provide the baseline data for acreage of disturbance arising from emergency tower repair utilized in this analysis.

On 1 August 2006 JSA met with SCE transmission design, engineering, and environmental resource managers to discuss transmission design and engineering, and the potential effects to cultural resources within the Alligator ACEC that would result from construction and operation of the DPV-2 T/L.

ANALYSIS AND ASSESSMENT

As proposed, approximately 7.16 miles of DPV-2 T/L will be constructed through the Alligator Rock ACEC. This construction will be comprised of 25 towers, of which 21 will be in-line suspension type, one angle suspension type, and three dead-end types. The three dead-end towers and one angle suspension tower contain more steel than the average suspension type due to a need to support tensioning in more than one angle, and are therefore more robust. Suspension towers come in several configurations, but typical of this type is that they permit a longer, continuous length of conductor to be strung between the towers for distances of up to 1.5 miles between dead-end towers.

Determination of areas of potential effect (APEs) for each of the 25 towers proposed for construction in the Alligator Rock ACEC has included consideration of potential impacts from initial transmission line construction activities and area of disturbance associated with the recent emergency reconstruction of DPV-1 T/L tower M162-T2. Approximately 11.5 acres (1,000 x 500 ft) of land were disturbed by the demolition, removal, and reconstruction of the failed tower. The tower M162-T2 that failed was a EMT suspension type. This tower was replaced with a more robust type EHT-S suspension tower. In order to reduce the potential for tower failure, SCE is proposing that only type EHT-S towers will be used for suspension purposes on the proposed DPV-2 T/L within the Alligator Rock ACEC.

The exclusive use of type EHT-S suspension towers and typical dead-end and angle suspension towers through Alligator Rock ACEC will significantly reduce the potential for tower failure, especially those resulting from wind overloading, which caused the recent failure of DPV-1 tower M162-2. Utilization of these more robust and heavier tower types virtually eliminates the potential for tower failure therefore reducing the estimated APE for DPV-2 towers in the Alligator Rock ACEC to a 150 ft radius tower pad; an area roughly 1.76 acres in size.

Installation of the DPV-2 T/L as proposed will require nine temporary construction activity areas located along the alignment within the Alligator Rock ACEC. Temporary construction activities include: conductor stringing, pulling and tensioning, field snub, and splicing. Each of these activities will be conducted in locations that are within or adjacent to the proposed DPV-2 T/L. The APEs for each of these temporary construction activities will be contained within a 150 ft radius area.

Thirty-two DPV-2 T/L construction areas within the Alligator Rock ACEC have been identified. These are separated into 25 tower locations, including new stub roads and crane pads, and 7 temporary construction locations (e.g., conductor stringing, pulling and tensioning, field snub or splicing). DPV-2 T/L construction will also make use of the existing DPV-1 T/L through access road. No equipment staging areas or material laydown areas are proposed within the ACEC.

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Table 1 below shows the Alligator Rock ACEC cultural resources within the 150 ft potential impact radius for each of the 32 proposed DPV-2 T/L construction areas and within the 100 ft (50 ft each side of centerline) potential impact areas for all roadways. These cultural resources include both the NRHP listed archaeological districts (CA-RIV-1383, CA-RIV-1814), and seven prehistoric archaeological sites (CA-RIV-53Tc, CA-RIV-1115, CA-RIV-1813, CA-RIV-1815, CA-RIV-7488, P33-013571, and P33-013604) and one prehistoric isolate (P33-013572). Of these seven prehistoric sites and one isolate, only CA-RIV-1115 has been subject to a determination of NRHP eligibility, and it was found to be not eligible (Carrico et al. 1982:77). Isolated artifacts are categorically ineligible to the NRHP.

Table 1. Areas of Proposed DPV-2 T/L Construction Activities in Relation to Existing Cultural Resources in the Alligator Rock ACEC, Proposed Areas of Potential Impact (APEs), and Recommended Protection and Monitoring Measures

Construction Activity	Type/Detail	Proposed APE	Resources w/in APE	Resource Protection & Construction Monitoring Measures
2505	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
2506	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
2507	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
Temporary	Splice	150 ft radius; 1.76 acres	NONE	
2508	Suspension Tower EMS-3	150 ft radius; 1.76 acres	NONE	
2509	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
2510	Suspension Tower EMS-1	150 ft radius; 1.76 acres	P33-013571 Quartz lithic reduction w/in 60 ft.	Minor adjustment tower to avoid &/or Temporary barrier fencing; monitor avoidance
Transportation	Stub Rd	100 ft. width	P33-013571 w/in 90 ft.	Enforce traffic plan
Transportation	Towerline Rd	100 ft. width	CA-RIV-1115 Trail segments & lithic scatter Site crosses road	Enforce traffic plan;
2511	Suspension Tower EMS-1	150 ft radius; 1.76 acres	CA-RIV-1115 surrounds tower footprint	Determined not NRHP eligible; Minimize total area of construction impact; monitor construction
2512	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	
Temporary	Field Snubs	150 ft radius; 1.76 acres	NONE	
2513	Suspension Tower EMS-3	150 ft radius; 1.76 acres	CA-RIV-7488 Lithic scatter & archaic dart point w/in tower footprint	Minor adjustment tower to avoid & Temporary barrier fencing
Transportation	Towerline Rd	100 ft. width	CA-RIV-7488 w/in 60 ft.	Enforce traffic plan; monitor avoidance
2514	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
2515	Suspension Tower EMS-2	150 ft radius; 1.76 acres	CA-RIV-1813 Rock rings, rock cairn, lithic scatter	Minor adjustment tower to avoid & Temporary barrier fencing
Transportation	Stub Rd	100 ft. width	CA-RIV-1813 w/in 30 ft.	Adjust location to avoid & Temporary barrier fencing; enforce traffic plan

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Construction Activity	Type/Detail	Proposed APE	Resources w/in APE	Resource Protection & Construction Monitoring Measures
Transportation	Towerline Rd	100 ft width	CA-RIV-1813 w/in 60 ft.	Enforce traffic plan; monitor avoidance
2516	Suspension Tower EMS-2	150 ft radius; 1.76 acres	NONE	
2517	Dead End Tower ELD-1	150 ft radius; 1.76 acres	NONE	
Temporary	(2) Conductor stringing locations	2 areas w/ 150 ft. radii; 3.52 acres	NONE	
Transportation	Towerline Rd	100 ft. width	CA-RIV-1814 locus 29-2 w/in 70 ft.	Enforce traffic plan; monitor avoidance
2518x	Suspension Tower EMS-2	150 ft radius; 1.76 acres	CA-RIV-1814 locus 30-1 lithic scatter w/in 70 ft. CA-RIV-1814 locus 291 trail segment w/in 90 ft. CA-RIV-1814 locus 31-3 large dense lithic scatter w/in 150 ft.	Temporary barrier fencing; monitor avoidance
Transportation	Stub Rd	100 ft. width	CA-RIV-1814 locus 30-1 lithic scatter w/in 20 ft	Adjust location to avoid; temporary barrier fencing; monitor avoidance
Transportation	Towerline Rd	100 ft width	CA-RIV-1814 locus 053-09 sparse lithic scatter w/in 20 ft CA-RIV-1814 locus 053-08 dense lithic scatter w/in 30 ft. CA-RIV-1814 locus 053-07 large dense lithic scatter w/in 40 ft. CA-RIV-1814 locus 053-06 isolate core w/in 80 ft.	Enforce traffic plan; temporary barrier fencing; monitor avoidance
Temporary	(2)Conductor puller & tensioner locations	2 areas w/ 150 ft. radii; 3.52 acres	NONE	
2519	Dead End Tower ELD-3	150 ft radius; 1.76 acres	NONE	
Transportation	Towerline Rd	100 ft width	CA-RIV-1814 locus 053-12 rock cairn feature w/in 50 ft.	Enforce traffic plan; monitor avoidance
2520	Suspension Tower EHT-S	150 ft radius; 1.76 acres	CA-RIV-1814 locus 052-60 isolate flake w/in 20 ft	Isolates not NRHP eligible; monitor construction
Transportation	Towerline Rd	100 ft width	CA-RIV-1814 locus 053-15 small lithic scatter w/in 90 ft	Enforce traffic plan; monitor avoidance
2521	Angle Tower ELA-4	150 ft radius; 1.76 acres	NONE	
2522	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	
2523x	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	
2524	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	
Transportation	Towerline Rd	100 ft width	CA-RIV-53T(c) trail segment crosses road	Enforce traffic plan; temporary barrier fencing; monitor avoidance
2525ALT	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	

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Construction Activity	Type/Detail	Proposed APE	Resources w/in APE	Resource Protection & Construction Monitoring Measures
Temporary	Conductor puller & tensioner location	150 ft radius; 1.76 acres	CA-RIV-53T(c) trail segment w/in 40 ft	Temporary barrier fencing
Transportation	Stub Rd	100 ft width	NONE	
2526	Dead End Tower ELD-1	150 ft radius; 1.76 acres	NONE	
Temporary	Conductor stringing location	150 ft radius; 1.76 acres	NONE	
Transportation	Stub Rd	100 ft width	CA-RIV-1383 NRHP district bisected by rd No loci w/in 100 ft	Enforce traffic plan; minimize total area of construction impact; monitor avoidance
2527	Suspension Tower EMS-1	150 ft radius; 1.76 acres	CA-RIV-1383 NRHP district surrounds tower footprint No loci w/in 150 ft	Enforce traffic plan; minimize total area of construction impact; monitor construction
2528x	Suspension Tower EMS-1	150 ft radius; 1.76 acres	CA-RIV-1815 rock rings & lithic scatter surrounds tower footprint	Adjust location to avoid; temporary barrier fencing; monitor avoidance
Transportation	Stub Rd	100 ft width	CA-RIV-1815 crosses stub rd	Adjust location to avoid; temporary barrier fencing; monitor avoidance
2529	Suspension Tower EMS-1	150 ft radius; 1.76 acres	NONE	

RECOMMENDATIONS

avoidance strategies; monitoring plans; minor adjustments in tower location/activity area location; traffic control; site closures; ???

cite Sriro 2005 for example of successful traffic control plan
environmental training of construction crews
project record and documentation program [monitor forms, incident records, photographic record & logs, other?]

REFERENCES CITED

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2006 Draft Final Cultural Resources Inventory of the Proposed Blythe Energy Transmission Project, Riverside County, California. With contributions by Andrea M. Craft, Stacey C. Jordan, Heather L. Kwiatkowski, Stacie L. Wilson, and Michael J. Wise. Dated March 2006.

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Eckhardt, William T., Kristen E. Walker, and Richard L. Carrico

2005 Cultural Resources Inventory of the Proposed Devers to Palo Verde II 500 kV Transmission Line, Riverside County, California.

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Eckhardt, William T.

2006 Emergency Undertaking – SCE Devers Palo Verde Transmission Line. Letter report to T.T. Taylor dated 28 July 2006.

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1986 Devers - Palo Verde 500 kV Transmission Line Project Strip Maps. Project Engineering Drawings on Orthophotographic Base, 55 Sheets (approximate scale 1:12,000). Revision dated 4 October 1986.

Sriro, Adam P.

2005 Old Ridge Route Protection Plan Associated with the Pastoria-Pardee 220 kV Transmission Line Reconductoring Project, Angeles National Forest, Los Angeles County, California.

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Harquahala Mountain Communication Site
Project Description

E4-6

Overview:

Southern California Edison Company (SCE) proposes to construct a new telecommunication facility at Harquahala Mountain, located approximately 10 miles east of Wenden, Arizona between State Highway 60 and Interstate 10. The new facility is needed to provide required communications in support of the proposed Devers-Harquahala 500kV Transmission Line Project, also known as DPV2.

The proposed facility would be located on BLM land, approximately 1 mile northwest of Salome in La Paz County, Arizona (as shown in Figure 1). The facility would be situated approximately 35 feet west of the existing Central Arizona Project (CAP) microwave facility and approximately 200 feet northwest of the Solar Observatory. The location on Harquahala Mountain is proposed by SCE because it is farthest from the Solar Observatory facility and requires minimal disturbance of the soil for building and tower construction.

Background:

Since inadequate protection schemes have shown to cause blackouts, North American Electric Reliability Council (NERC), California Independent System Operator (CAISO), and Western Electricity Coordinating Council (WECC) mandate two independent communication paths for reliable operation of the power grid. This construction will augment Edison's ability to meet its commitment to provide reliable and cost-effective electric service to its customers, increase reliability of supply, and flexibility in operating California's transmission grid.

The proposed DPV2 500kV transmission line between Devers Substation and Harquahala Generating Station Switchyard (Harquahala Switchyard) would include a Fiber Optic Ground Wire (OPGW) to provide one of the two required communication path for line protection. A second path using microwave equipment on Harquahala Mountain is required to meet the NERC, CAISO, and WECC's requirements. The second path must be in operation by March 1, 2009, which will require site construction to start by June 1, 2008.

Harquahala Mountain:

The Harquahala Mountain site was selected by SCE because it is the only site that provides microwave line-of-sight to three (3) other facilities that are needed for protective relaying, Special Protection Scheme (formerly known as Remedial Action Scheme), Supervisory Control and Data Acquisition (SCADA), Data, and Telephony. These facilities are Harquahala Switchyard, Arizona Series Capacitor Station, and Smith Peak Communications Site.

The proposed SCE facility at Harquahala Mountain will include:

- One 12-foot by 36-foot prefabricated building
- One 85-foot, self supporting microwave tower

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- One 20KW emergency generator
- Two 500-gallon propane tanks, enclosed in a concrete block wall
- Two 15-foot by 33-foot solar panels and associated charging and control equipment
- Five 8-foot diameter microwave antennas
- Three microwave terminals and common equipment
- One -48VDC battery system and associated DC distribution panels and charging equipment

The proposed facility requires an area roughly 65-foot by 75-foot located approximately 35 feet west of the existing CAP facility and approximately 200 feet northwest of the Solar Observatory (as shown in Figure 1). This area will be fenced and gate locked. Figures 2 and 3 are provided to show the side view elevations looking from the south and east directions. Figure 4 shows the proposed 85-foot self-supporting microwave tower and five (5) 8-foot microwave antennas.

The communications building will be prefabricated measuring approximately 12-foot wide by 36-foot long. The prefabricated building includes a separate generator room. Two 500-gallon tanks will be installed on a concrete foundation north of the building to provide fuel for the generator. The tanks will be protected by a concrete block wall. As there is no commercial power to the site, two solar panels measuring approximately 15-foot high by 33-foot long (as shown in Figure 10) will be installed on the south side of the building to provide power for the communications equipment. An 85-foot self-supporting microwave tower will be installed to the west of the building. Five 8-foot diameter microwave antennas will be installed on the tower to support the three (3) microwave paths required for the project.

The proposed tower height is 85 feet to provide line of sight to Harquahala Switchyard located approximately 26.7 miles to the southeast of the peak, and to provide the required spacing (40') between antennas necessary for reliable operation of the planned microwave systems. This practice, commonly referred in the telecommunications industry as "space diversity," is often required for reliable operation of long microwave paths. The path to Harquahala Switchyard requires antennas mounted at 40' and 80' to clear a ridge located a few feet south of the wind sock on the peak. The other paths are not obstructed by the terrain.

Due to the distance between Harquahala Mountain and Harquahala Generating Station, the microwave path requires two (2) 8-foot diameter antennas with 40' vertical separation on the tower as illustrated in Figure 5. Similarly, the microwave path to the Arizona Series Capacitor Station also requires two 8-foot diameter antennas (with 40' vertical separation). The microwave path to Smith Peak requires only a single 8-foot diameter antenna.

SCE will install three (3) microwave terminals, channel, alarm, and networking equipment in the communications building. In addition, power distribution panels, battery chargers, batteries, and solar control equipment will also be installed in the building. This equipment will support SCE Utility Operations; no third party use is planned.

As requested by the BLM during the site meeting at Harquahala Mountain on May 10, 2006, this submittal includes photo simulations showing existing and proposed views from five different areas as described below and shown in the attached photo simulation brochure.

Comment Set E4, cont. Southern California Edison Company

Photo Simulation View 1 - looking from wind sock area
Photo Simulation View 2 - looking from Solar Observatory facility
Photo Simulation View 3 - looking from parking area east of Solar Observatory facility
Photo Simulation View 4 - looking up from picnic area leading to the mountaintop
Photo Simulation View 5 - looking up from parking area at the bottom of the hill near the restroom facility

E4-6 cont.

List of Figures:

1. Plot Plan
2. Side View - South Elevation
3. Side View - East Elevation
4. 85-foot Microwave Tower and Antenna Elevations
5. Microwave Path to Harquahala Generating Station 500kV Switchyard
6. Map showing proposed laydown areas
7. Laydown area 1 (preferred) coordinates
8. Laydown area 2 (alternate) coordinates
9. Solar Panel Array Layout 1 of 2
10. Solar Panel Array Layout 2 of 2

Construction Plans:

Access Road

- Construction access is available via an existing dirt road leading to the construction site.

Laydown Area

- Two temporary laydown areas (as shown in Figures 6, 7 and 8) have been identified. These areas will be used only for materials and equipment drop off, pickup, and delivery to the job site. There will be no materials or equipment staged in the laydown areas. The first area is located at the bottom of the Harquahala Mountain, just north of the dirt road leading to the mountaintop. This area is currently being used for off-road vehicle parking. The second area is located on the southeast corner of Salome Road and Buckeye Road.

Material Staging

- Edison's Blythe (CA) Service Center will be used as a temporary staging area for the communication building and structural steel for the microwave tower.

Grading and Foundation

- Minimal grading will be required at the site to remove vegetation, since the proposed area is fairly level. Four concrete foundations would be constructed to support the microwave tower, prefabricated building, propane tanks, and solar panels. During construction, existing concrete suppliers will be used where feasible. Concrete will be delivered to the job site in standard transit-mix concrete trucks.

Communication Building

Comment Set E4, cont. Southern California Edison Company

- The prefabricated building would be shipped from the supplier to Edison’s Blythe Service Center and then trucked to the temporary laydown area in Arizona for pickup by helicopter and delivery to the job site.

E4-6 cont.

Propane Tanks

- The propane tanks would be trucked to the job site directly from the manufacturing plant. The tanks would be installed on one of the four concrete foundations and filled at the job site by a propane truck. For protection, the tanks will be enclosed by a new block wall.

Solar Panels

- The solar panels (as shown in Figure 9 and 10) and associated installation hardware would be shipped by truck to the construction yard and then trucked to the job site. The panels would be assembled and installed at the job site.

Microwave Tower and Antennas

- Two 2-foot diameter holes, 45’ deep, will be drilled for the purpose of obtaining soil samples, which are necessary for the final design the new tower. The diameter and depth of the tower foundation depends upon final structural design of the tower.
- At the tower manufacturer’s fabrication plant, structural members will be bundled and shipped by truck to the staging area at Edison’s Blythe Service Center. When the foundations are completed the structural components will be trucked to the job site. Tower section subassemblies would be assembled at the job site and erected with the aid of a crane.
- The microwave antennas will be shipped by truck to Edison’s Blythe Service Center. When the tower construction is completed the antennas will be trucked to the job site for installation. The antennas will be installed on the tower individually at the job site with the aid of a crane.
- To support the antenna waveguides, a new overhead cable tray will be installed between the building and the tower.
- SCE will ensure that the new tower and all proposed microwave paths will not interfere with existing CAP microwave paths or facilities.

Communication Equipment

- Communication equipment will be delivered to the job site directly from SCE’s warehouse in Fullerton, CA. The equipment will be installed by SCE’s telecommunications construction crews.

Construction Equipment:

- Drill Rig – To drill foundation holes for the new antenna tower.
- Flatbed Truck – To haul foundation and tower steel.
- Crane – To erect the new tower and mount the microwave antennas.
- Transit-Mix Concrete Truck – To deliver concrete for foundations.
- Concrete Pump – To direct concrete into foundation holes.
- Helicopter – To deliver the prefabricated building and tower steel to the job site.

Comment Set E4, cont.
Southern California Edison Company

E4-6 cont.

- Dump Truck – To haul natural material (dirt, rock, etc.) from the job site to a location approved by the BLM.
- Crew Truck – To haul small tools, material, and employees.
- Parking – Most vehicles will be parked adjacent to the existing access road at the mountaintop. Some vehicles will be parked at the bottom of the hill near the restroom facility.
- Construction Crew – Work crews consist of 5 to 10 persons, depending on the stage of construction activities. Crews will be mostly contractors, with some SCE personnel.
- Construction Monitoring - In addition to environmental monitors recommended by BLM, Edison will have a field construction coordinator onsite during all construction activity.

Construction Schedule:

- Start of construction: June 1, 2008.
- Construction duration: Approximately 6-8 months.
- Work schedule: 6:00 am – 6:00 pm, weekdays and weekends.
- End of construction: February 1, 2009

Submittals:

- Plot plan drawing showing proposed area including tower, building, solar panel, propane tanks, and existing Central Arizona Project facility.
- Tower elevation drawing showing antenna placement.
- Microwave path plan showing three proposed paths.
- Photo simulations

Alternatives:

1. Co-locating with Central Arizona Project (CAP)

An alternative to constructing a separate SCE facility at Harquahala Mountain is to co-locate with the existing CAP facility. There are many technical issues associated with this alternative and are listed below. If this alternative is selected, SCE would have to collaborate with CAP personnel to address all issues and develop solutions satisfactory to both parties.

- Solar Power Capacity: Upgrade existing solar panels with high capacity panels to serve SCE equipment. The associated charging and controlling equipment will also need to be upgraded. Additional solar panels may be needed if the upgrade does not provide adequate capacity. If new solar panels are required, additional land would be needed.
- Battery Capacity: The existing battery room is full. A second battery room (10'X12') will be required for new batteries.
- Generator Capacity: Upgrade existing generator to provide an additional 20KW. The existing generator room may not be big enough to support larger generator.
- Space in communications building: SCE would need a minimum of four (4) 8' X 19" equipment racks.
- Air Conditioning/Heating: SCE equipment will generate more heat in the building and will require additional cooling equipment.

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- Tower Space: The existing 40' tower will need to be replaced with an 85' tower to support five (5) new 8-foot diameter microwave antennas required by SCE.
- Outages: The upgrade of microwave tower and power systems will require multiple extended outages on existing CAP equipment, impacting operation of the Central Arizona Project.

2. Using Other Communication Sites

A second alternative to building a facility at Harquahala Mountain would be to construct five (5) new sites at lower elevations to satisfy SCE's requirements. These sites include Burnt Mountain, Lone Mountain, Black Rock Hill, Guadalupe Mountain, and Cunningham Mountain. Based on the analysis of these sites, SCE has determined that Harquahala Mountain would provide the least impact to cultural, visual and recreational resources. Additionally, these sites are already congested with other microwave networks and frequency availability is limited.

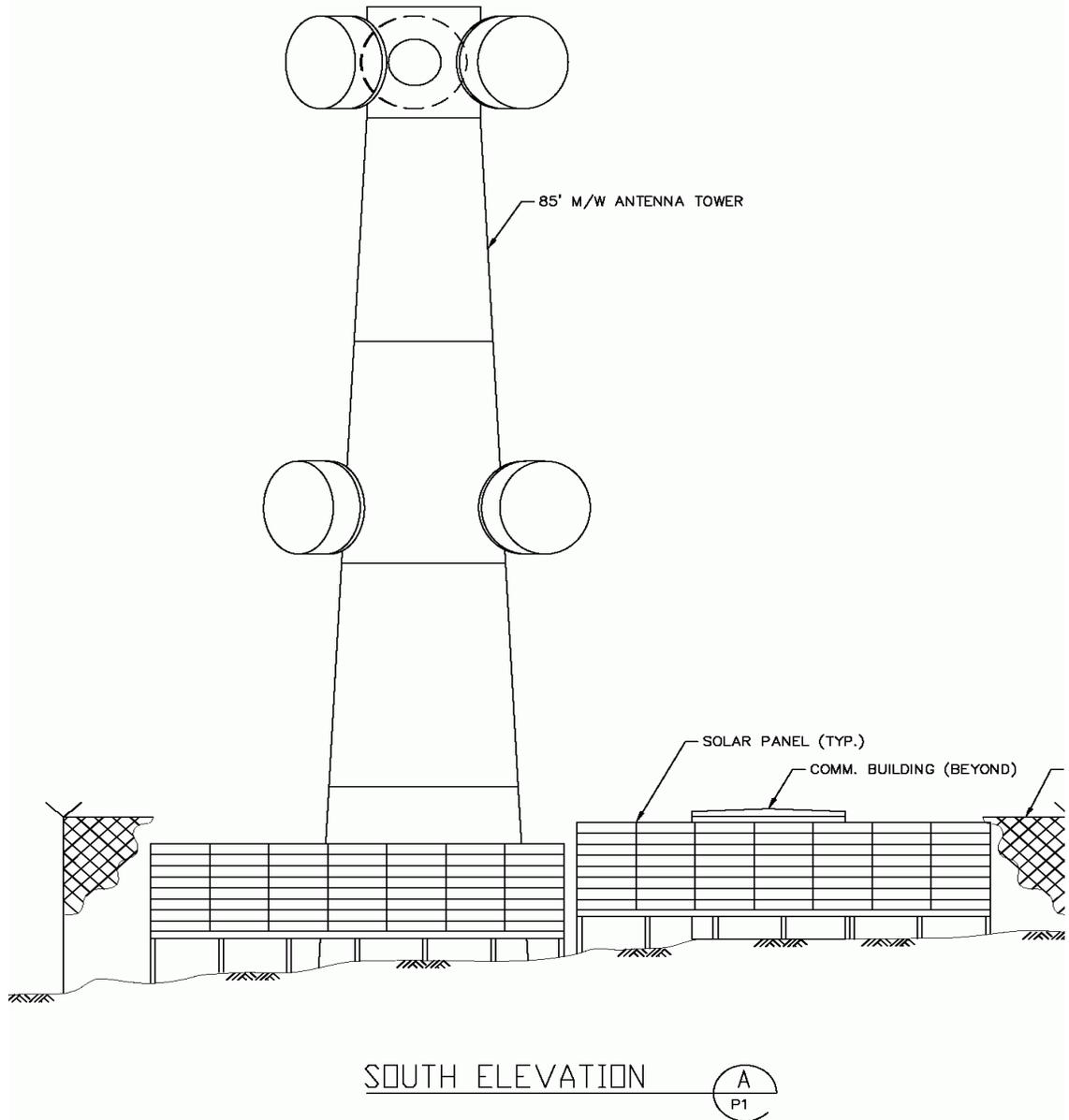
Conclusion:

Southern California Edison proposes to collaborate with BLM's Phoenix Area Office to define and implement the most effective action to reduce impacts of the proposed facility at Harquahala Mountain on cultural, visual, and recreational resources.

We believe the new proposed DPV2 communication facility adjacent to and west of the CAP facility at Harquahala Mountain would be acceptable and could be permitted by BLM in compliance with Section 106 of the National Historic Preservation Act and that SCE could mitigate any perceived impacts from a science and technology standpoint by undertaking an Historic American Engineering Record of the solar observatory and providing interpretive enhancements and other site improvements. SCE proposes to collaborate with BLM, CAP, recreation users, and other stakeholders to resolve any issues before, during, and after construction.

E4-6 cont.

Comment Set E4, cont.
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E4-6 cont.

Figure 2
Harquahala Mountain Comm. Site

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E4-6 cont.

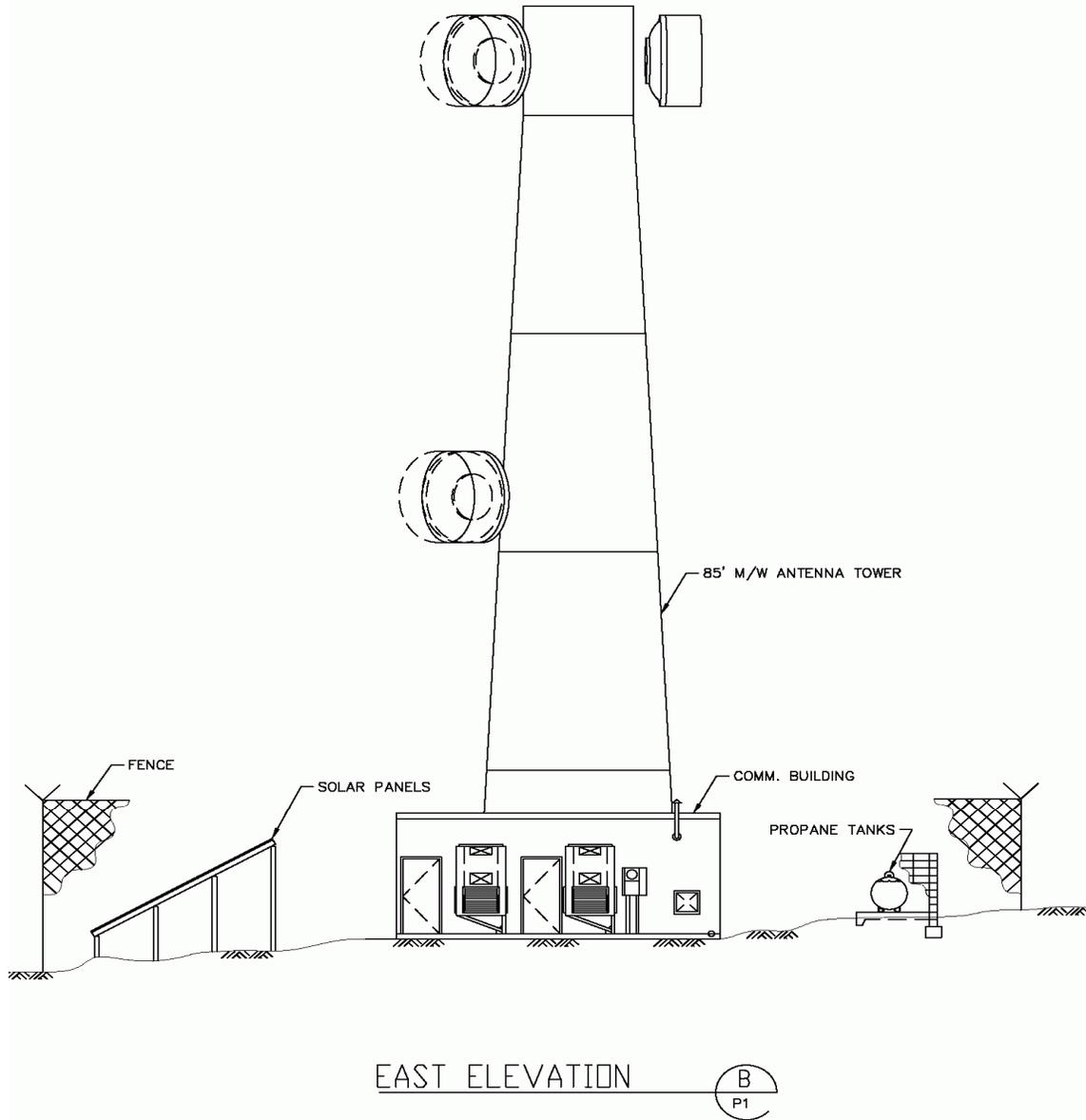
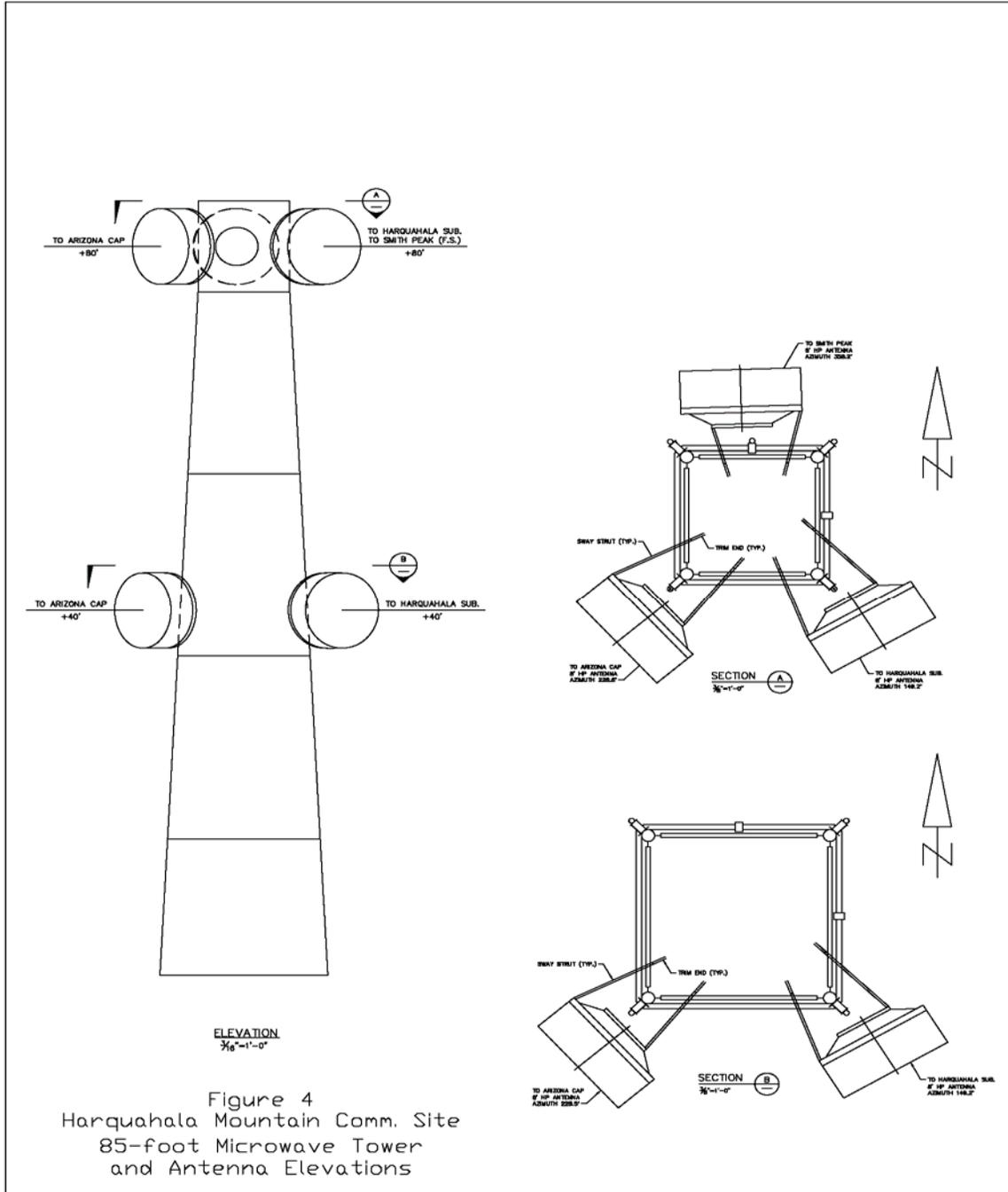


Figure 3
Harquahala Mountain Comm. Site

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E4-6 cont.

Comment Set E4, cont.
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Harquahala Mountain - Harquahala GS 500kV Switchyard
Space Diversity Microwave Antenna System

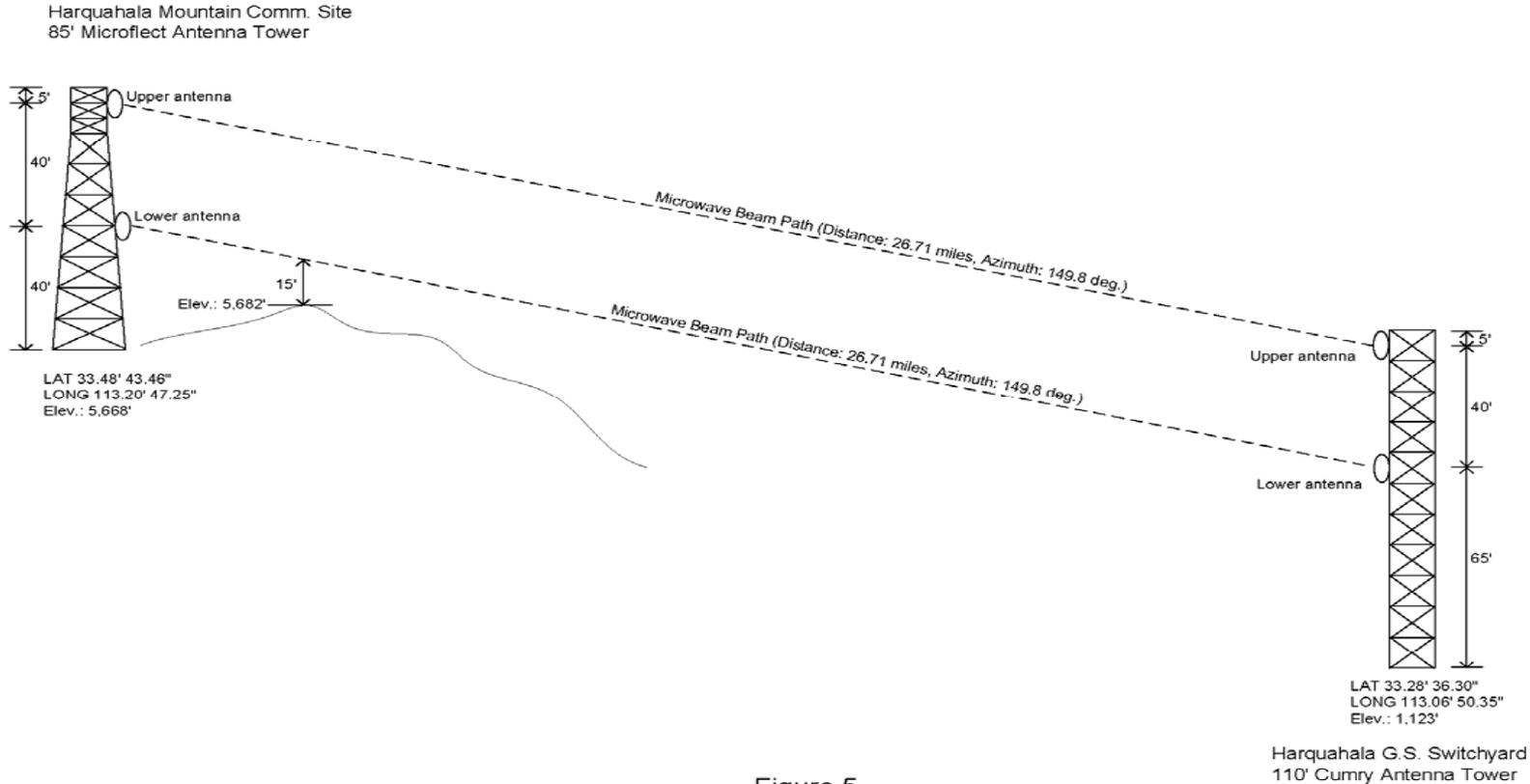


Figure 5
Harquahala Mountain - Harquahala Substation
Microwave Path

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Comment Set E4, cont.
 Southern California Edison Company

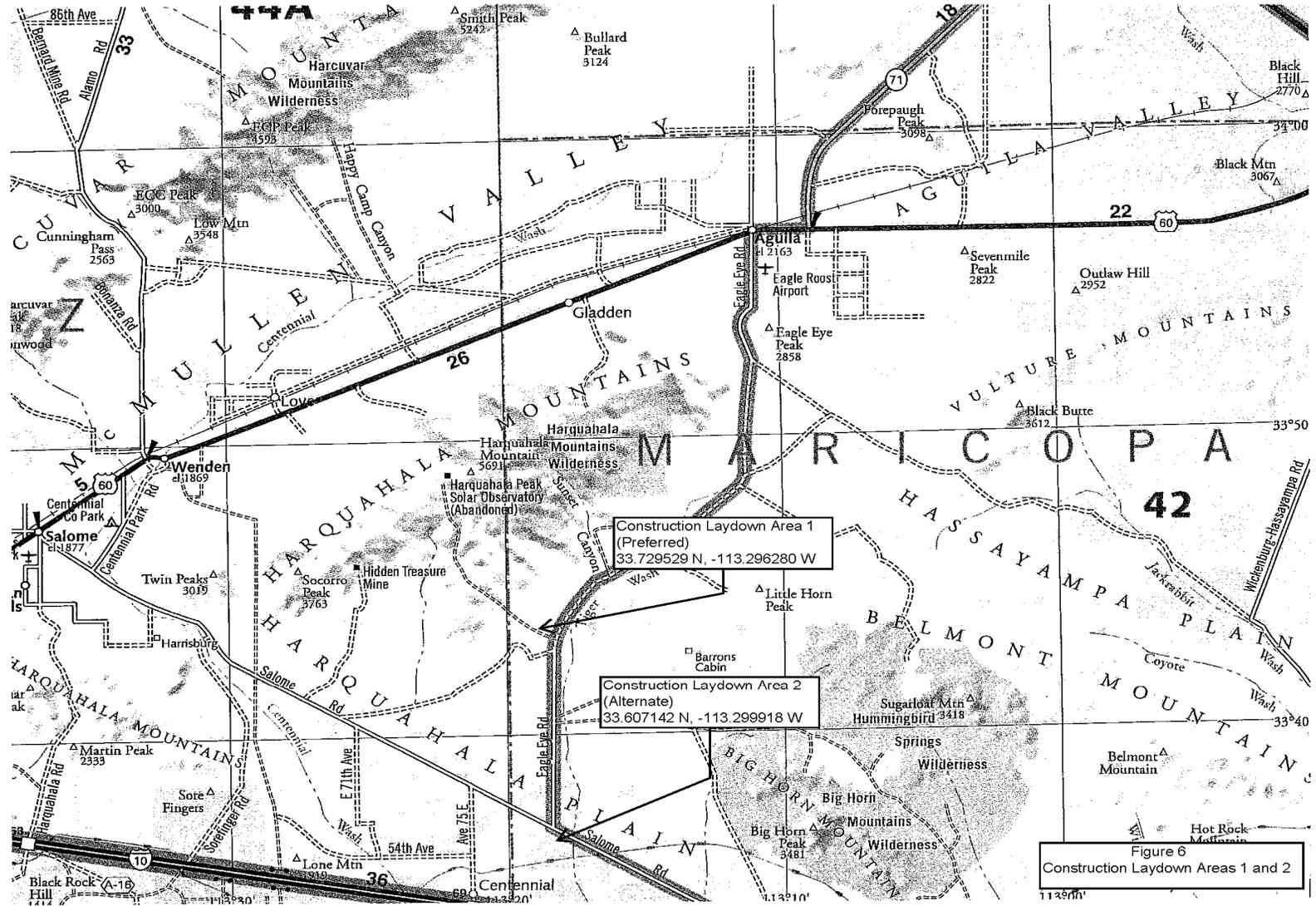
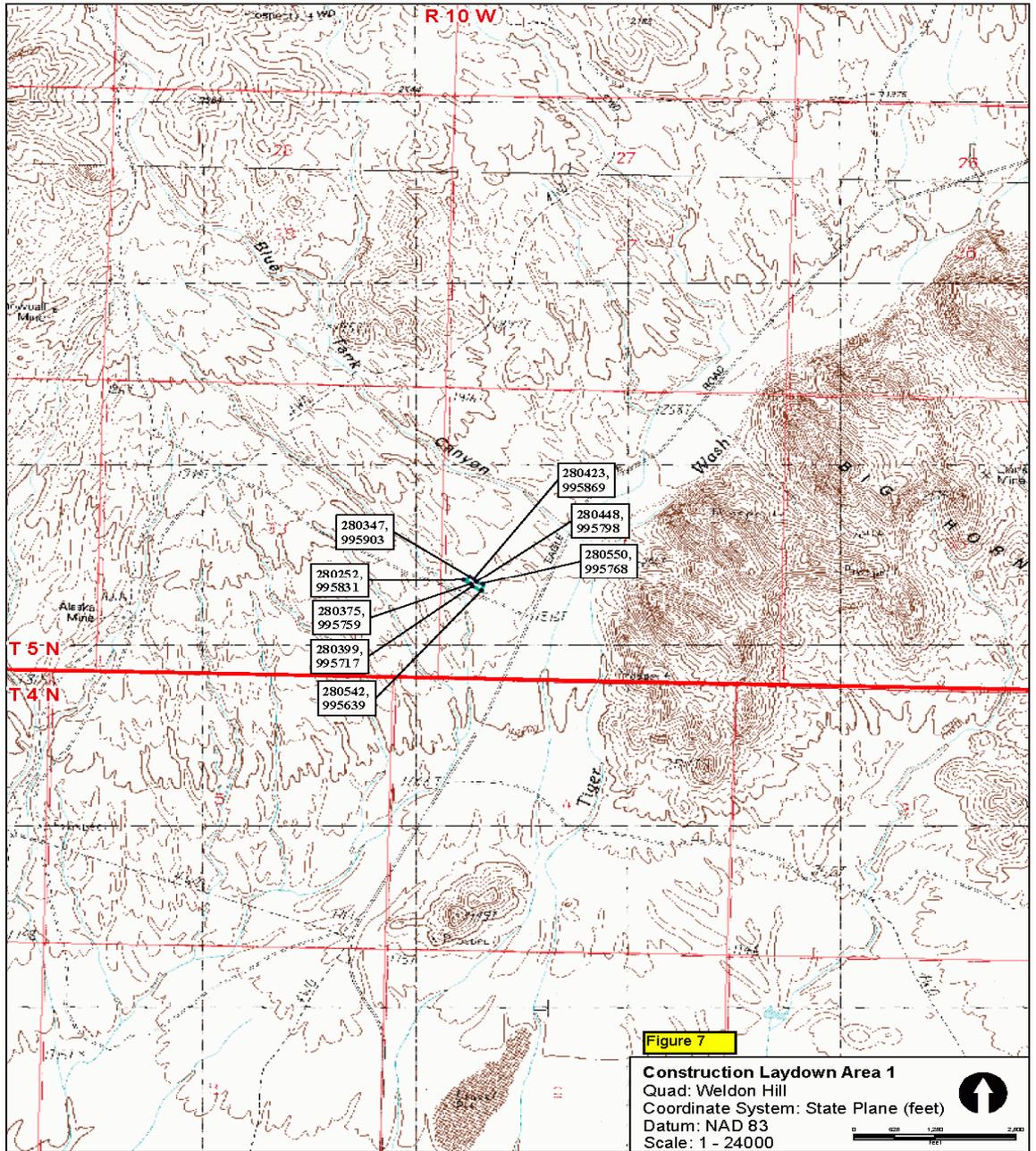


Figure 6
 Construction Laydown Areas 1 and 2

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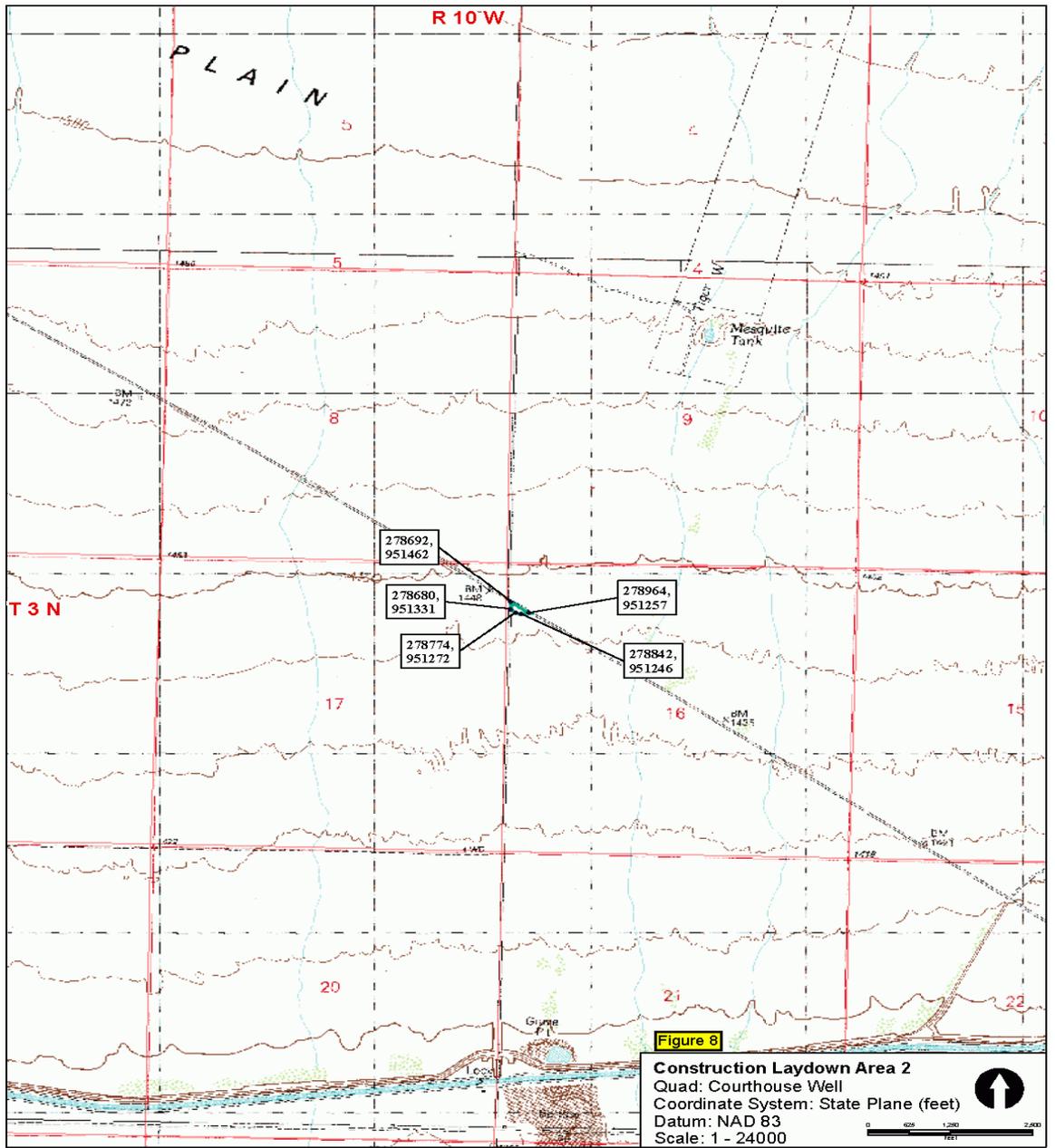
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Southern California Edison Company

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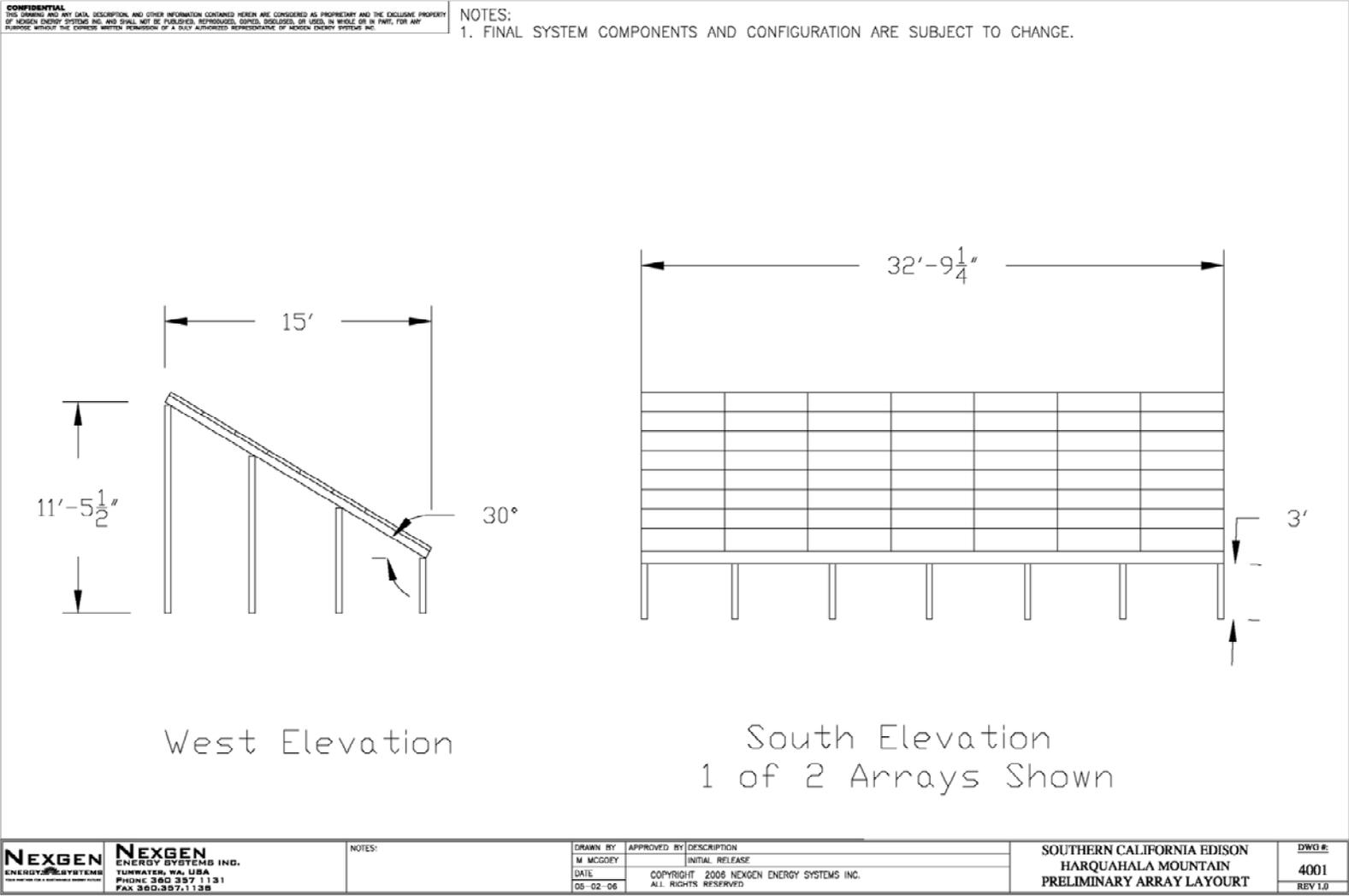


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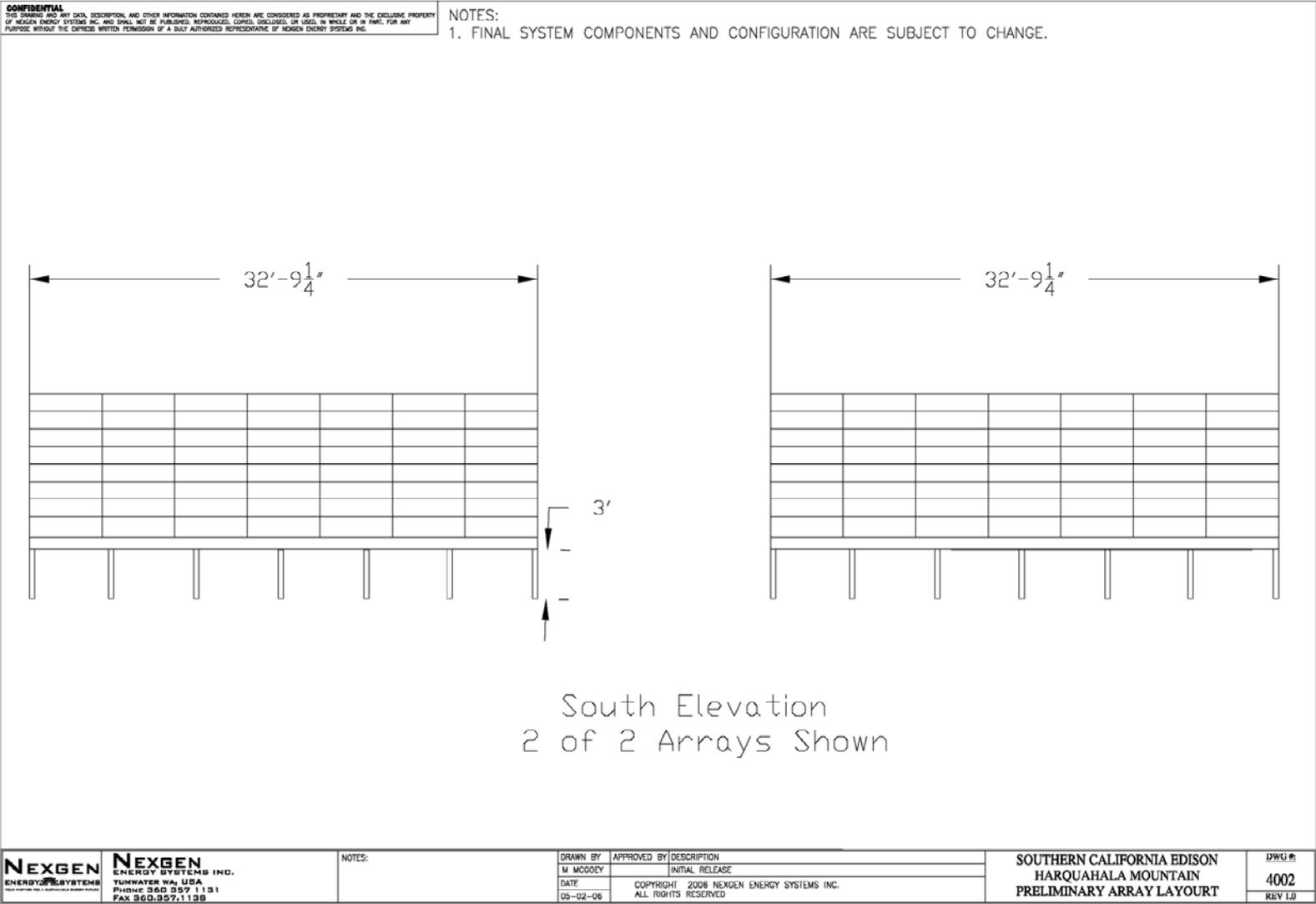


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