

APPENDIX 1-A
LETTERS OF SUPPORT



960 Main Street
Ramona, CA 92065

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Barbara Worden

Administrative Assistant

JoAnn Bryant

December 19, 2012

Juanita Hayes
Public Affairs Manager
San Diego Gas & Electric
571 Enterprise Street
SD 1460
Escondido CA 92025

Dear Juanita,

Thank you for the briefing you provided to the Ramona Chamber of Commerce on TL 637 earlier this year. We were thrilled to learn that SDG&E is making every attempt to reduce the high risk fire area associated with their lines and changing the poles from wood to steel is only one of the many solutions you are working on; and we congratulate you.

This particular line is located in the back country adjacent to residential, open space, wild lands plus some of the strongest winds in the County of San Diego. That is why this project is even more important to complete as soon as possible.

The Ramona Chamber of Commerce serves as an advocate to its members, many of whom live around where the project is located, and we were able to share the information and good news about the future safety of our community as it relates to protecting us from the risk of fires.

Now, we are disappointed to learn that this project is being delayed because the California Public Utilities Commission (CPUC) is undertaking a more detailed environmental review of the project. Why it was OK at one time and now needs more review is puzzling?

The Ramona Chamber of Commerce encourages the CPUC to move forward as quickly as possible with this most important project and not delay it. The potential of fires is a year-round concern, especially in the back country, and anything SDG&E can do to make our community even safer is of value.

Sincerely,

Carol Fowler
Economic Development
Ramona Chamber of Commerce



SAN VICENTE INN & GOLF RESORT

December 19, 2012

Juanita Hayes
Public Affairs Manager
San Diego Gas & Electric
571 Enterprise Street
SD 1460
Escondido CA 92025

Dear Juanita:

I appreciate the briefing you provided me on TL 637 earlier this year. What I was most excited about was the value such a wood to steel project brings to the back country residents and the positive impact in and around the San Diego Country Estates and the golf course. The TL 637 project combined with the Cleveland National Forest wood to steel project only enhances the high risk fire area with a more reliable and safe infrastructure which acts a buffer to our community.

As a result of our meeting we were able to publish the Fact Sheet and Vicinity Map in our local community newspaper that has a circulation of 10,000. This provided a very valuable update about how SDG&E is working with communities and organizations to educate on what they are doing in the back country, in particular Ramona, and the concerns they have for the safety of its customers.

We realize that SDG&E would like to reduce the fire risk associated with any of their lines and the inherent conditions of this backcountry location should be one of the top priorities.

Thank you Juanita for letting me know about the delay of TL 637 by the California Public Utilities Commission (CPUC) because they want to undertake a more detail environmental review of the project. We find this delay to be unacceptable and would encourage the CPUC to reconsider the delay and move forward with getting this important, and much needed, project approved and under construction.

The San Diego Country Estates Association and its members support the TL 637 project and would appreciate your sharing our concerns about the delay with the CPUC.

Sincerely,

A handwritten signature in blue ink, appearing to read "Marlo Trejo".

Marlo Trejo, AMS
General Manager
San Diego Country Estates Association

E.A. RANCHES
18122 Littlepage Road
Ramona, CA 92065

February 6, 2013

Leroy Gomez, Right of Way Agent
Land Services Section
San Diego Gas & Electric Company
8335 Century Park Court, CP11D
San Diego, CA 92123-1569

Re: SDG&E TL637 Electric Line Replacement

Dear Mr. Gomez:

As you well know, in December 2011 E.A. Ranches granted San Diego Gas & Electric Company (SDG&E) an easement across a portion of lands owned by E.A. Ranches, previously owned by the Bureau of Land Management (BLM). The BLM originally issued a right-of-way (ROW) grant for the TL637 69kV electric transmission line in 1958 for a term of 50 years. SDG&E made these details known in 2011, had the easement value appraised and negotiated compensation for the executed easement. Other portions of TL637 that pass through E.A. Ranches are covered by existing easements.

As it is understood, the project will help to harden the line during extreme weather conditions in high fire-risk areas by installing taller poles and utilizing heavier conductor wire. The benefits anticipated are enhanced safety and reliability of electric service to this area of San Diego County, especially during fire events. Other benefits include reduced cost and environmental impacts for future maintenance activities.

E. A. Ranches is built and managed around the belief that the early development of horses--exercise, nutrition, and close attention and care--is fundamental to racing success, and handles all equine services, including broodmare care, breeding, foaling, layups, sales prep, and breaking and training. Safe transmission of electric power through the 1000 acres owned by E.A. Ranches is of utmost concern and importance to the operations of its facilities.

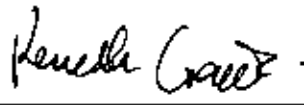
E.A. Ranches has been informed by SDG&E that the California Public Utilities Commission (PUC) is undertaking a more detailed environmental review of the TL 637 Project, which may delay the project 12 to 18 months. While E.A. Ranches understands the importance of public involvement throughout the review and permitting process, E.A. Ranches also wishes to express its support for the project for the reasons previously cited. E.A. Ranches encourages the PUC to move forward as expeditiously as possible with the review. E.A. Ranches also welcomes the opportunity to comment on the project further, as it sees appropriate. Overall, it views the

Leroy Gomez
February 6, 2013
Page 2

project, as presented, an enhancement to the surrounding community for the extra peace of mind it can provide during the fire season. E.A. Ranches sincerely appreciates the PUC's attention to this matter.

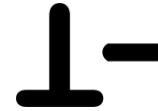
Sincerely,

E.A. Ranches, LLC

By: 

Kenneth Cramer, Chief Executive
Officer

Tulloch Faminly Partners, LP
28223 Highway 78
Ramona, CA 92065



January 15, 2013

Mr. Brian Swanson
SDG&E Land Manager-Northeast
8335 Century Park CT., CP11D
San Diego, CA 92123-1569

Mr. Swanson

We, Tulloch Family Partners, LP are writing you to voice our disappointment in hearing that the upgrade of TL637 has been delayed further. This has been carrying on for over two years and the line is still a hazard to our ranch and the general public. As you know our ranch was the location of the origin of the Witch Creek fire in 2007 and over 5 years later it has yet to be upgraded to steel poles and longer insulators.

This line crosses over 5 miles of our property. The application process is extremely burdensome and invasive to our cattle operation. While we have worked proactively with you and the company to make the studies and reviews as smooth as possible, we have experienced consultants not heeding to directions provided by SDG&E. Parking in front of gates, wandering off the easement, driving in wet conditions are just a few of the continual problems and in general we do not want them on the property any longer. These reviews are causing us more headaches than just getting the job done and over with.

It is my understanding that the CPUC is intending to require further environmental reviews. Well would you please let them know that we have been studied and reviewed a number of times and this ranch is not going to be harmed by the upgrading of this line. In fact, there is more harm being done by continuing to delay the upgrade. As I write this letter we are experiencing a strong Santa Ana wind and with the 30 degree temperatures we do not cherish the thought that SDG&E could cut our power off during the wind because the line has not been upgraded. Further studies and reviews are not going to reduce the winds and they are not going to change the fact that equipment and people must be upon the land to make the changes. I just do not understand the reasoning behind the CPUC's decision to delay.

Would you please provide my letter to the CPUC and if any of their personnel wish to discuss this further I would be happy to do so. This delaying is a waste of ratepayers money and a burden on us landowners.

Sincerely

Glenn E. Drown
Tulloch Family Partners

APPENDIX 1-B

**PARCEL AND MAILING INFORMATION FOR PROPERTIES WITHIN 300 FEET OF
THE PROPOSED PROJECT**

Appendix 1-B

Parcel and Mailing Information

Parcel Number	Owner Name	Mailing Address	City, State, and Zip Code	Property Use Type
2885412200	FERWALT DARREN W & MARY K	PO BOX 1883	SISTERS OR 977591883	Single Family Residence / Townhouse
2841103500	WITMAN HENRY W III & BETTY A FAMILY TRUST 11-06-90	PO BOX 1959	ESCONDIDO CA 920331959	Vacant
2871002300	SCHULTZ PETER E & ERIN D	PO BOX 2269	RAMONA CA 920650939	Single Family Residence / Townhouse
2871001700	ELSTON JOHN W JR & TERESA M	PO BOX 2528	RAMONA CA 920650943	Single Family Residence / Townhouse
2840900500	HUMISTON FRED G	PO BOX 25959	LOS ANGELES CA 90025	Single Family Residence / Townhouse
2471602100	VEDOVA JAMES C	PO BOX 266	SANTA YSABEL CA 920700266	Vacant
2480440300	BACK COUNTRY PROPERTIES INC	PO BOX 307	SANTA YSABEL CA 920700307	Commercial
2880100100	COUNTY OF SAN DIEGO	SCARBERRY RD	RAMONA CA 92065	Exempt
2841300500	COUNTY OF SAN DIEGO	VISTA RAMONA RD	RAMONA CA 92065	Exempt
2885420100	PELTIER PHYLIP J & KAREN D	100 CHAPARRAL DR	PARADISE CA 959696104	Single Family Residence / Townhouse
2885010100	HENNING PETER & THALIA	11327 LUXEMBOURG WAY	SAN DIEGO CA 921312939	Single Family Residence / Townhouse
2871231800	MCFADDEN ROGER J & HEIDI-ROSE	12435 SNAFFLE BIT RD	PEYTON CO 808317986	Single Family Residence / Townhouse
2885621300	KENNY FRANCIS W 07-11-00	13170 CAROLEEAVE	SAN DIEGO CA 92129	Single Family Residence / Townhouse
2885510900	FINCH JANE E	1444 BUENA VISTA WAY	CARLSBAD CA 920081537	Single Family Residence / Townhouse
2480301000	SOUTTERE DOROTHY L SEPARATE PROPERTY TRUST 12-27-07	1468 TARBOX ST	SAN DIEGO CA 921142635	Agricultural
2884900200	SAN DIEGO COUNTRY ESTATES ASSN	15910 AVENEL LN	RAMONA CA 920654904	Vacant
2471601400	COUNTY OF SAN DIEGO	1600 PACIFIC HWY	SAN DIEGO CA 921012429	Agricultural
2885621000	MARTINO DORIS	16124 RAGLES CREST RD	RAMONA CA 92065	Single Family Residence / Townhouse
2871214400	CHAVEZ OSWALDO & VALERIE A	16305 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871213400	DELEONARDO MICHAEL S & JANETTE 2006 TRUST 11-22-06	16310 OPEN VIEW RD	RAMONA CA 920655933	Single Family Residence / Townhouse
2871214300	BERLINER JEFFREY S & PAULA M	16323 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871213300	WILSON DENNIS W & JONNIE A	16332 OPEN VIEW RD	RAMONA CA 920655933	Single Family Residence / Townhouse
2871214200	WEBER FAMILY TRUST 06-06-07	16341 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871213200	THIEM GREGORY T & KAAREN	16350 OPEN VIEW RD	RAMONA CA 920655933	Single Family Residence / Townhouse
2871214100	HENSON ALDA L	16359 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871214000	BENNETT MOSES	16377 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871213100	DAILY DAVID S & TARA L	16378 OPEN VIEW RD	RAMONA CA 920655933	Single Family Residence / Townhouse
2871213900	LITTLEFIELD LAURENCE D & CAROLE J FAMILY TRUST 01-21-04	16395 OPEN VIEW RD	RAMONA CA 920655934	Single Family Residence / Townhouse
2871211100	WHITE DWAYNE R	16934 IVY PASS CIR	RAMONA CA 920655929	Single Family Residence / Townhouse
2871210300	RASH PAUL K & MOON	16953 ARENA WAY	RAMONA CA 920655926	Single Family Residence / Townhouse
2871214500	ALFARO JUAN & ADRIANA	16989 ARENA WAY	RAMONA CA 920655926	Single Family Residence / Townhouse
2871214600	ROMERO MARGARET L TRUST	17009 ARENA WAY	RAMONA CA 920655936	Single Family Residence / Townhouse
2871215200	MCCLURE KELLY J & AMY M	17012 ARENA WAY	RAMONA CA 920655935	Single Family Residence / Townhouse
2871214700	SEXTON RICHARD D & LEE ANITA L	17021 ARENA WAY	RAMONA CA 920655936	Single Family Residence / Townhouse
2871215300	RUSHWORTH W HARRY & TILLIE	17024 ARENA WAY	RAMONA CA 920655935	Single Family Residence / Townhouse
2871212400	EBRO LYNN M	17025 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871211800	ANGELOW DONALD F JR & MARGARET	17026 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871215400	PECORARO JOHN W & KATHERINE G	17030 ARENA WAY	RAMONA CA 920655935	Single Family Residence / Townhouse
2871214800	LOPRESTI KENNETH C & COLLENA A	17033 ARENA WAY	RAMONA CA 920655936	Single Family Residence / Townhouse
2871212300	MCEWAN JOHN G & DORIE L	17043 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871211900	CAVAZOS JONATHAN & DESIREE	17044 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse

Appendix 1-B

Parcel and Mailing Information

Parcel Number	Owner Name	Mailing Address	City, State, and Zip Code	Property Use Type
2871214900	ZAZAS AUNDREA M	17045 ARENA WAY	RAMONA CA 920655936	Single Family Residence / Townhouse
2871215500	GEHLER FAMILY TRUST 08-01-08	17046 ARENA WAY	RAMONA CA 920655935	Single Family Residence / Townhouse
2871215000	CARRILLO FREDRICK A & VICKI L	17057 ARENA WAY	RAMONA CA 920655936	Single Family Residence / Townhouse
2871212200	HALLMARK STEVE & MICHELLE	17061 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871212000	HAERR JOHN & RENEE	17062 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871212100	SUTHERLAND TED	17080 HARVEST POINT WAY	RAMONA CA 920655930	Single Family Residence / Townhouse
2871231900	BORCHERS VINCENT & CAMILLA	17217 PRAIRIE MILE RD	RAMONA CA 920656412	Single Family Residence / Townhouse
2885513100	GROGAN MICHAEL J	17252 ACANTO DR	RAMONA CA 920654004	Single Family Residence / Townhouse
2871001600	YORK JOHN FAMILY TRUST	17287 OAK HOLLOW RD	RAMONA CA 920656757	Single Family Residence / Townhouse
2885621600	TUCKER LIVING TRUST	17339 ABRIGO WAY	RAMONA CA 920654002	Single Family Residence / Townhouse
2885621700	LULL WILLIAM G & GERALDINE	17351 ABRIGO WAY	RAMONA CA 920654002	Single Family Residence / Townhouse
2885621800	O'BRIEN DOUGLAS S & MARY J E	17352 ABRIGO WAY	RAMONA CA 920654002	Single Family Residence / Townhouse
2871001800	PAGE MICHAEL A & LISA A	17449 OAK HOLLOW RD	RAMONA CA 920656758	Single Family Residence / Townhouse
2871001900	ELSTON FAMILY TRUST 08-08-01	17655 OAK HOLLOW RD	RAMONA CA 920656505	Single Family Residence / Townhouse
2840903100	STANTON FAMILY TRUST	1804 BIG SKY RD	RAMONA CA 920653565	Single Family Residence / Townhouse
2840903200	ARTIS FAMILY TRUST	1844 BIG SKY RD	RAMONA CA 920653565	Single Family Residence / Townhouse
2840810800	MADISON TRUST 02-06-92	1865 KEYES RD	RAMONA CA 920653520	Single Family Residence / Townhouse
2840902600	WALES BOLEN E & LISA C	1880 KEYES RD	RAMONA CA 920653521	Single Family Residence / Townhouse
2841104800	ROTH FAMILY RESIDUAL TRUST 04-21-99	1985 SIXES CT	RAMONA CA 920653720	Single Family Residence / Townhouse
2885420200	KIDD SCOTT & MARY 2009 TRUST 11-24-09	209 BRATTLE RD	SYRACUSE NY 132031320	Single Family Residence / Townhouse
2885420300	CROCKETT THOMAS M & RICHARDSON TERESA L	21109 SHELL VALLEY RD	EDMONDS WA 980266949	Single Family Residence / Townhouse
2871211700	PAXTON DORIS E TRUST 09-01-04	23608 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871211600	CROWELL CORWIN	23616 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871211500	SCHIFERL CLARK M & SONYA	23624 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871210400	FRIESENHAHN DAVID J & DEBORA A	23631 GYMKHANA RD	RAMONA CA 920655928	Single Family Residence / Townhouse
2871211400	SHAW STEVEN & MICHELLE FAMILY TRUST 06-13-05	23632 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871211300	WATKINS BRIAN J & MICHELLE L	23640 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871210500	NECOCHEA RAYMOND & LINDA	23643 GYMKHANA RD	RAMONA CA 920655928	Single Family Residence / Townhouse
2871211200	WORDEN DAVID E & BARBARA A	23648 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871211000	CHAVARIN PHILLIP JR & DEANNA L	23664 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871210900	ACCARDI BRANDON M & ROBYN B	23672 GYMKHANA RD	RAMONA CA 920655927	Single Family Residence / Townhouse
2871220900	WOOD ROSS W	23676 CALLE OVIEDA	RAMONA CA 920656411	Single Family Residence / Townhouse
2871220700	FISER CHRISTOPHER L & KRISTA	23689 CALLE OVIEDA	RAMONA CA 920656411	Single Family Residence / Townhouse
2871220800	GESAMAN TROY L	23690 CALLE OVIEDA	RAMONA CA 920656411	Single Family Residence / Townhouse
2885623800	ANDERSON WALTER H FAMILY TRUST	23713 VISTA RAMONA RD	RAMONA CA 920654041	Single Family Residence / Townhouse
2885620100	STEWART WILLIAM W & KATHLEEN R	23718 VISTA RAMONA RD	RAMONA CA 920654042	Single Family Residence / Townhouse
2885623700	MCCAULEY TERENCE G & ISABEL H	23719 VISTA RAMONA RD	RAMONA CA 920654041	Single Family Residence / Townhouse
2885623600	KISSINGER DALE K	23725 VISTA RAMONA RD	RAMONA CA 920654041	Single Family Residence / Townhouse
2885620200	LAKE MARTIN & VALERIE FAMILY TRUST OF 2006	23726 VISTA RAMONA RD	RAMONA CA 920654042	Single Family Residence / Townhouse
2885623500	RING GARY A	23731 VISTA RAMONA RD	RAMONA CA 920654041	Single Family Residence / Townhouse
2885620300	THEILER MARTIN & THOMPSON PRISKA M	23734 VISTA RAMONA RD	RAMONA CA 920654042	Single Family Residence / Townhouse

Appendix 1-B

Parcel and Mailing Information

Parcel Number	Owner Name	Mailing Address	City, State, and Zip Code	Property Use Type
2885623400	MULL JESSE M JR & DONNA L	23739 VISTA RAMONA RD	RAMONA CA 920654041	Single Family Residence / Townhouse
2885620400	SHABO HANI M & JOKA BAN Y	23742 VISTA RAMONA RD	RAMONA CA 920654042	Single Family Residence / Townhouse
2885620500	BALDRIDGE FAMILY TRUST	23750 VISTA RAMONA RD	RAMONA CA 920654097	Single Family Residence / Townhouse
2885623300	HOUSGARD ROGER J & LENA E	23751 VISTA RAMONA RD	RAMONA CA 920654098	Single Family Residence / Townhouse
2885620600	TAMBURRINO ANTHONY & SEPTEMBER	23758 VISTA RAMONA RD	RAMONA CA 920654097	Single Family Residence / Townhouse
2885620700	LEE THOMAS W & DIANA R	23766 VISTA RAMONA RD	RAMONA CA 920654097	Single Family Residence / Townhouse
2885620800	MARTIN STEPHEN M & DEBORA K	24110 RUTHERFORD RD	RAMONA CA 920654057	Single Family Residence / Townhouse
2885620900	KISS ETHEL M TRUST 02-08-00	24118 RUTHERFORD RD	RAMONA CA 920654057	Single Family Residence / Townhouse
2885621100	MEITZLER BRIAN K	24134 RUTHERFORD RD	RAMONA CA 920654057	Single Family Residence / Townhouse
2885621200	HENDERSON SARAH A	24142 RUTHERFORD RD	RAMONA CA 920654057	Single Family Residence / Townhouse
2885621400	TILESTON HENRY Y & HOPE L	24158 RUTHERFORD RD	RAMONA CA 920654057	Single Family Residence / Townhouse
2870500600	AUERBACH LISA D	2416 WILSHIRE BLVD	SANTA MONICA CA 904035806	Vacant
2870321300	E A RANCHES L L C	2416 WILSHIRE BLVD	SANTA MONICA CA 904035806	Vacant
2885510100	BORENSTEIN MARTIN I & MARILYN K 03-31-98	24216 RUTHERFORD RD	RAMONA CA 920654024	Single Family Residence / Townhouse
2885510200	WHALEN SUSAN I	24224 RUTHERFORD RD	RAMONA CA 920654024	Single Family Residence / Townhouse
2885513300	FERNANDEZ G C & D V 2006 TRUST	24225 RUTHERFORD RD	RAMONA CA 920654023	Single Family Residence / Townhouse
2885513200	BURFEINDT FAMILY TRUST	24233 RUTHERFORD RD	RAMONA CA 920654023	Single Family Residence / Townhouse
2885510500	RUBINO JOSEPH T & RHONDA K	24248 RUTHERFORD RD	RAMONA CA 920654024	Single Family Residence / Townhouse
2885510700	MOORE MARY K	24306 RUTHERFORD RD	RAMONA CA 920654085	Single Family Residence / Townhouse
2885510800	JAMES DENIS L & SHARRI D	24314 RUTHERFORD RD	RAMONA CA 920654085	Single Family Residence / Townhouse
2885511000	ENGEL ROCK D TRUST 09-26-07	24315 RUTHERFORD RD	RAMONA CA 920654086	Single Family Residence / Townhouse
2885423300	SWEET DONALD & GERALDINE TRUST 07-04-92	24329 RUTHERFORD RD	RAMONA CA 920654086	Single Family Residence / Townhouse
2885423200	DONNA C 09-29-00	24343 RUTHERFORD RD	RAMONA CA 920654086	Single Family Residence / Townhouse
2885423100	EVERETT DAVID J	24351 RUTHERFORD RD	RAMONA CA 920654025	Single Family Residence / Townhouse
2885420400	TIPPS BRYAN & DEBORAH	24354 RUTHERFORD RD	RAMONA CA 920654026	Single Family Residence / Townhouse
2885423000	SAVAGE RONALD T & DONNA J	24359 RUTHERFORD RD	RAMONA CA 920654025	Single Family Residence / Townhouse
2885420500	MAVROUDIS JOHN A & KAREN R	24360 RUTHERFORD RD	RAMONA CA 920654026	Single Family Residence / Townhouse
2885420600	PEERY JOHN R	24368 RUTHERFORD RD	RAMONA CA 920654026	Single Family Residence / Townhouse
2885422900	BAZINET CAROL J TRUST	24369 RUTHERFORD RD	RAMONA CA 920654025	Single Family Residence / Townhouse
2885420700	WHITEHILL MICHAEL J & KIMBERLY A	24376 RUTHERFORD RD	RAMONA CA 920654026	Single Family Residence / Townhouse
2885422800	MEANDRO MIKE	24381 RUTHERFORD RD	RAMONA CA 920654025	Single Family Residence / Townhouse
2885420800	GYDE SHANNON J	24384 RUTHERFORD RD	RAMONA CA 920654026	Single Family Residence / Townhouse
2885422700	SMITH JIMMIE & DORIS 10-02-01	24389 RUTHERFORD RD	RAMONA CA 920654025	Single Family Residence / Townhouse
2885421000	PADILLA ERIKA & NICHOLAS	24404 RUTHERFORD RD	RAMONA CA 920654028	Single Family Residence / Townhouse
2885421100	MURPHY RILEY & JENNIFER	24412 RUTHERFORD RD	RAMONA CA 920654028	Single Family Residence / Townhouse
2885421200	BRYE TONYA E	24420 RUTHERFORD RD	RAMONA CA 920654028	Single Family Residence / Townhouse
2885510600	MCCANN TROY H & ERIN E	24426 CORNELL PARK LN	KATY TX 774944288	Single Family Residence / Townhouse
2885421300	SWEITZER FAMILY TRUST	24428 RUTHERFORD RD	RAMONA CA 920654028	Single Family Residence / Townhouse

Appendix 1-B

Parcel and Mailing Information

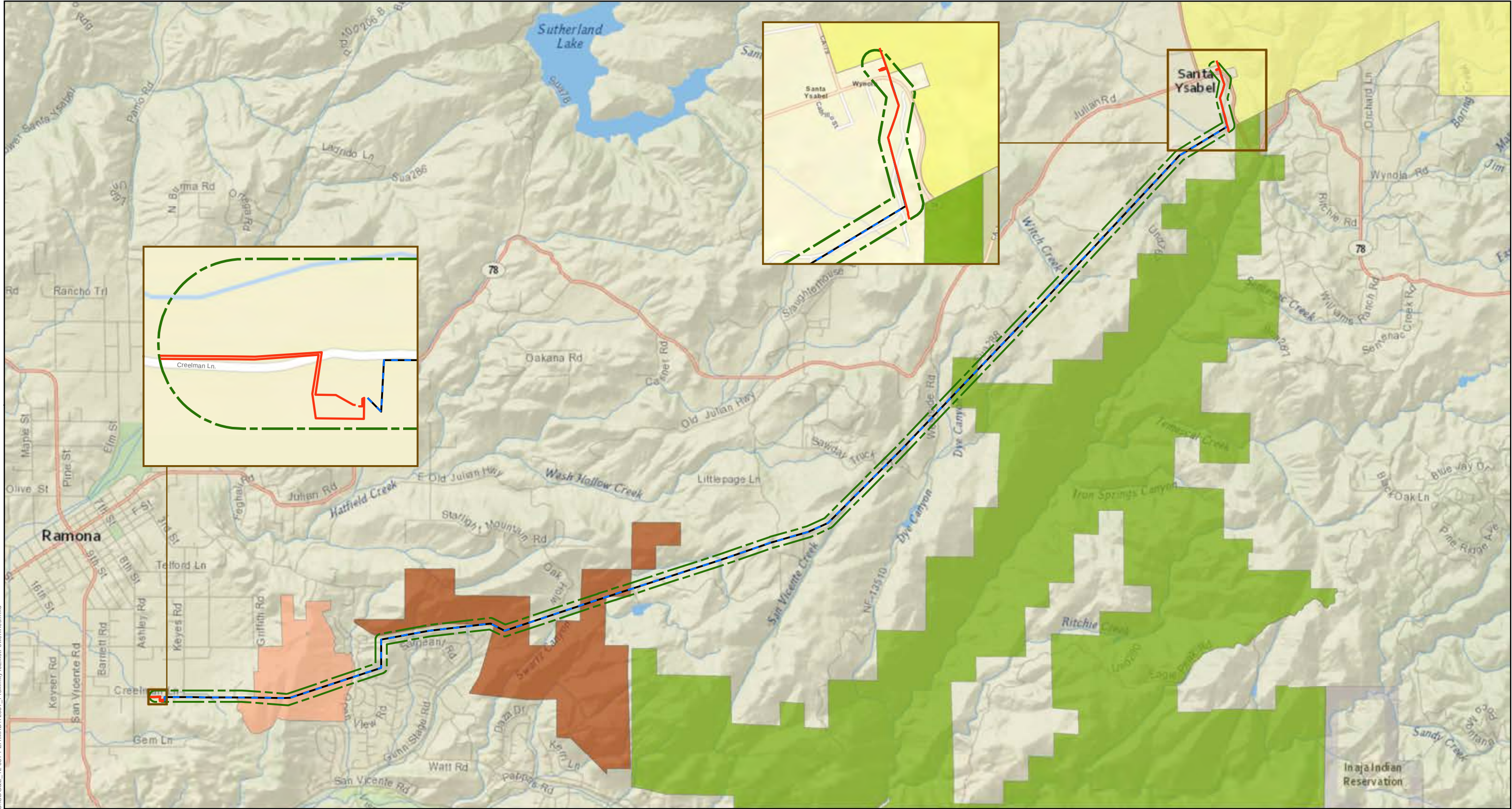
Parcel Number	Owner Name	Mailing Address	City, State, and Zip Code	Property Use Type
2885421500	WHALEN RUSSELL T & PAMELA R	24444 RUTHERFORD RD	RAMONA CA 920654087	Single Family Residence / Townhouse
2885421600	MCLEOD AARON J & AIMEE E	24452 RUTHERFORD RD	RAMONA CA 920654087	Single Family Residence / Townhouse
2885426300	GREER RODNEY & MARIA	24468 RUTHERFORD RD	RAMONA CA 920654087	Single Family Residence / Townhouse
2885410200	KELLOUGH DYANNE DP	24510 RUTHERFORD RD	RAMONA CA 920654030	Single Family Residence / Townhouse
2885410300	MARKER J L & K M LIVING TRUST	24518 RUTHERFORD RD	RAMONA CA 920654030	Single Family Residence / Townhouse
2885410400	RAYMER CHRISTOPHER C & JERRIE H	24526 RUTHERFORD RD	RAMONA CA 920654030	Single Family Residence / Townhouse
2885410500	MIDDLETON SCOTT A & TRACI N	24534 RUTHERFORD RD	RAMONA CA 920654030	Single Family Residence / Townhouse
2885410600	STATEHAM BRET S & LORI A	24542 RUTHERFORD RD	RAMONA CA 920654030	Single Family Residence / Townhouse
2885411500	JOHNSTON MICHAEL W	24546 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885410700	NOBLES THOMAS & BURKE-NOBLES IRENE	24550 RUTHERFORD RD	RAMONA CA 920654089	Single Family Residence / Townhouse
2885411600	OTTALAGANO DENNIS P & NOREEN E	24552 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885410800	TEIXEIRA MARC D & JANICE M	24556 RUTHERFORD RD	RAMONA CA 920654089	Single Family Residence / Townhouse
2885412400	OCONNOR KATIE M	24557 DEL AMO RD	RAMONA CA 920654082	Single Family Residence / Townhouse
2885411700	SLOAN JOCELYN R	24558 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885411800	MEYERS JASON E & KELLEY J	24562 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885410900	JOHNSON BROOKE A & TERESA L	24562 RUTHERFORD RD	RAMONA CA 920654089	Single Family Residence / Townhouse
2885412300	MICHELETTI FAMILY TRUST 08-13-97	24563 DEL AMO RD	RAMONA CA 920654082	Single Family Residence / Townhouse
2885411900	ELLERY MICHAEL &	24566 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885411000	MUREN G TIMOTHY & TAMARA M	24568 RUTHERFORD RD	RAMONA CA 920654089	Single Family Residence / Townhouse
2885412000	SCHIRER HARRY R & ANGELA L	24570 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2885411100	BULL RICHARD E & CONSTANCE J	24572 RUTHERFORD RD	RAMONA CA 920654089	Single Family Residence / Townhouse
2885412100	DOYLE ROB M & SUZANNE M	24574 DEL AMO RD	RAMONA CA 920654081	Single Family Residence / Townhouse
2870503300	RITLAND JON E	2529 23RD RD	ARLINGTON VA 222074901	Agricultural
2840900900	BROUWER FAMILY TRUST 04-13-04	25971 KAYWOOD WAY	ESCONDIDO CA 920268428	Single Family Residence / Townhouse
2481301300	CUMMING FAMILY TRUST TRUST D 06-17-83	28223 HIGHWAY 78	RAMONA CA 920656712	Agricultural
2481301000	TULLOCH FAMILY PARTNERS L P	28223 HIGHWAY 78	RAMONA CA 920656712	Agricultural
2841102900	DEWALT RICHARD D	310 CREELMAN LN	RAMONA CA 920653555	Agricultural
2885420900	US BANK NA SERIES 2005-AR16	3476 STATEVIEW BLVD	FORT MILL SC 297157203	Single Family Residence / Townhouse
2885421700	YOUNG MONE L	3630 VIA SILVA	OCEANSIDE CA 920567260	Single Family Residence / Townhouse
2841101100	MCWHORTER 08-03-87	368 CREELMAN LN	RAMONA CA 920653555	Single Family Residence / Townhouse
2840901600	JOHNSON JOE A JR & CHAROTT A	385 CREELMAN LN	RAMONA CA 920653554	Apartment
2885421400	1996 DAVIS FAMILY TRUST	3913 VIEJAS CREEK LN	ALPINE CA 919012348	Single Family Residence / Townhouse
2841102200	PATE CHARLES M & NANCY R	410 CREELMAN LN	RAMONA CA 920653543	Single Family Residence / Townhouse
2841102000	TRAPHAGEN OF MCKENNEY TRUST	460 CREELMAN LN	RAMONA CA 920653543	Single Family Residence / Townhouse
2841101900	MACARTHUR RON & MARCIA C	488 CREELMAN LN	RAMONA CA 920653543	Single Family Residence / Townhouse
2841104300	KLINGNER FAMILY TRUST 09-27-04	514 CREELMAN LN	RAMONA CA 920653542	Single Family Residence / Townhouse
2841104500	PISACRETA KATHLEEN	532 CREELMAN LN	RAMONA CA 920653542	Single Family Residence / Townhouse
2871223300	RANCHO SAN VICENTE ASSN	5740 FLEET ST	CARLSBAD CA 920084704	Vacant
2885510400	KUNUGI JIMMIE H	6309 CHARING ST	SAN DIEGO CA 921175116	Vacant
2841104700	TORPIN GEOFFREY & SHARON	638 CREELMAN LN	RAMONA CA 920653420	Single Family Residence / Townhouse

Appendix 1-B

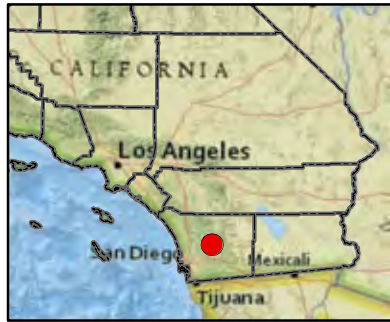
Parcel and Mailing Information

Parcel Number	Owner Name	Mailing Address	City, State, and Zip Code	Property Use Type
2841100800	AYERS FAMILY TRUST	664 CREELMAN LN	RAMONA CA 920653420	Single Family Residence / Townhouse
2841011900	MORAN MANUEL N & NORA P	720 CREELMAN LN	RAMONA CA 920653422	Single Family Residence / Townhouse
2840811100	LEHMAN CISSY R	741 CREELMAN LN	RAMONA CA 920653421	Single Family Residence / Townhouse
2841102100	ROSE BEN 03-27-08	827 SUMMIT LOOP	GRANTS PASS OR 975278990	Single Family Residence / Townhouse
2480490100	HERITAGE OPERATING L P	8801 YALE AVE	TULSA OK 741373536	Not Available / None
2890101400	TULLOCH LUCY	935 HILLTOP NORTH DR	BAYFIELD CO 811229360	Agricultural
2885510300	HARRIS ROBERT C JR TRUST	9528 MIRAMAR RD	SAN DIEGO CA 921264533	Single Family Residence / Townhouse
2481300600	WOOD JEFF J	9727 CASTAIC CT	SANTEE CA 920712623	Agricultural
2481301400	WOOD JAMES O REVOCABLE TRUST 01-23-01	PO BOX 60	SANTA YSABEL CA 92070	

APPENDIX 1-C
EXISTING POWER LINE MAP



G:\SDG&E_TL 637 PE\A\KDT\TL637_ProximityToAxisPowerlines.mxd



Created For:
Brad Carter

Created By:


Date: 2/13/2013

SDG&E is providing
this map with the under-
standing that the map is
not survey grade.

- Existing 69kV Power Line
- Tie-Line 637 Alignment
- 300-foot Buffer

- Santa Ysabel Valley WA, Edwards Ranch West
- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve

Tie-Line 637 Wood-To-Steel Project

Existing Power Line Map

Appendix 1-C



Source: SDG&E 2012; California Protected Areas Database, July 2012; TRC 2012; National Geographic, Esri, DeLorme, et. al.



APPENDIX 3-A
POLE DETAIL TABLE

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
Pole Locations			
P2	Replace	Existing – 65' Proposed – 72'	Micropile foundation pole. Accessed by private driveway adjacent to Creelman Substation. Stringing Site # 3.
P3	Replace	Existing – 63' Proposed – 80'	Micropile foundation pole. Stringing sites # 1-2.
R1	Remove	Existing – 29'	Remove stub pole R1.
D4	Replace	Existing – 40' Proposed – 48'	Direct bury pole. Remove existing pole butt.
P5	Replace	Existing – 76' Proposed – 100'	Micropile foundation pole.
D6	Replace	Existing – 42' Proposed – 55'	Micropile foundation pole.
D7	Remove	Existing – 49'	Wood pole to be removed from service.
D8	Replace	Proposed – 52'	Direct bury pole. Replace existing steel pole.
R165	Remove	Existing – 43'	Wood pole to be removed from service.
R9	Remove	Existing – 69'	Existing wood pole. Pole to be moved to south side of Creelman Lane. Pole will be replaced by P166.
P166	Install	Proposed – 100'	Micropile foundation pole. Replaces pole R9.
D167	Install	Existing – 44' Proposed – 48'	Direct bury pole. Pole will replace R10.
R10	Top	Existing – 44' Proposed – 48'	Pole to be moved to south side of road. Existing wood pole topped above communications. Pole will be replaced by D167.
P168	Install	Existing – 58' Proposed – 79'	New direct bury pole. Pole will replace R11.

¹ Refer to Appendix 3-B, Detailed Route Map, for location of all references Proposed Project features.

² Exact pole heights may vary depending upon field conditions.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
R11	Remove	Existing – 58' Proposed – 79'	Existing wood pole. Pole to be moved to south side of road. Pole will be replaced by P168.
D12	Install	Existing – 38' Proposed – 48'	Direct bury pole. Access via Creelman Lane. Pole will replace R169.
R169	Remove	Existing – 38' Proposed – 48'	Existing wood pole. Pole to be moved to south side of road. Pole to be replaced by D12.
R13	Remove	Existing – 74' Proposed – 79'	Existing wood pole. Pole to be moved to south side of road. Pole will be replaced by P170.
P170	Install	Existing – 74' Proposed – 79'	New direct bury pole. Remove from service existing distribution pole R2. Pole will replace R13.
R2	Remove	Existing – 25'	Pole to be removed from service.
R171	Move	Existing – 39' Proposed – 48'	Existing wood pole. Pole to be moved to south side of road. Pole will be replaced by D14.
D14	Replace	Existing – 39' Proposed – 48'	Direct bury pole. Pole will replace R171.
P172	Install	Existing – 66' Proposed – 75'	Micropile foundation pole. Will replace R15 and R172.
R15	Remove	Existing – 66'	Existing wood pole. Pole to be replaced by P172.
R172	Replace	Existing – 66' Proposed – 75'	Existing wood pole. Pole to be replaced by P172.
D16	Replace	Existing – 39' Proposed – 48'	Direct bury pole. Existing wood pole. Access via Creelman Lane.
R17	Remove	Existing – 70' Proposed – 90'	Existing wood pole. Pole to be moved to south side of road. Pole will be replaced by P173
P173	Install	Existing – 70' Proposed – 90'	Micropile foundation pole. Pole will replace R17.
R18	Remove	Existing – 43'	Pole to be removed from service.
D19	Replace	Existing – 36' Proposed – 43'	Direct bury pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
D174	Replace	Existing – 60' Proposed – 48'	Direct bury pole. Pole will replace R174.
R174	Remove	Existing – 60' Proposed – 48'	Existing wood pole. Pole to be moved 52 feet East. New micropile foundation pole P20. Pole will be replaced by D174.
P20	Install	Proposed – 90'	Micropile foundation pole.
D21	Replace	Existing – 40' Proposed – 48'	Direct bury pole. Existing wood pole. Begin Simon Preserve.
P22	Replace	Existing – 51' Proposed – 75'	Micropile foundation pole. Simon Preserve.
P23	Replace	Existing – 57' Proposed – 85'	Micropile foundation pole. Existing wood pole. Simon Preserve.
P24	Replace	Existing – 67' Proposed – 80'	Micropile foundation pole. Existing wood pole. Simon Preserve.
P25	Replace	Existing – 59' Proposed – 70'	Direct bury pole. Existing wood pole. Overland travel 100' feet to pole. Simon Preserve.
D26	Replace	Existing – 57' Proposed – 57'	Direct bury pole. Existing wood pole. Simon Preserve.
P27	Replace	Existing – 68' Proposed – 70'	Micropile foundation pole. Existing wood pole. Simon Preserve.
D28	Replace	Existing – 59' Proposed – 75'	Direct bury pole. Existing wood pole. Interset pole. Simon Preserve.
P29	Replace	Existing – 68' Proposed – 90'	Micropile foundation pole. Existing wood pole. Interset pole. Simon Preserve.
P30	Replace	Existing – 67' Proposed – 95'	Micropile foundation pole. Existing wood pole. Simon Preserve.
D31	Replace	Existing – 49' Proposed – 70'	Direct bury pole. Existing wood pole. Re-establish access road. Simon Preserve.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P32	Replace	Existing – 68' Proposed – 75'	Micropile foundation pole. Existing wood pole. Simon Preserve.
D33	Replace	Existing – 48' Proposed – 48'	Direct bury pole. Existing wood pole. Interset pole. Simon Preserve.
D34	Replace	Existing – 55' Proposed – 57'	Direct bury pole. Existing wood pole. Simon Preserve.
P35	Replace	Existing – 67' Proposed – 85'	Micropile foundation pole. Existing wood pole. Simon Preserve.
P36	Replace	Existing – 64' Proposed – 75'	Direct bury pole. Existing wood pole. Simon Preserve.
P37	Replace	Existing – 72' Proposed – 75'	Direct bury pole. Existing wood pole. Simon Preserve.
P38	Replace	Existing – 67' Proposed – 75'	Direct bury pole. Existing wood pole. Simon Preserve.
P39	Replace	Existing – 69' Proposed – 75'	Micropile foundation pole. Existing wood pole. Simon Preserve. End Preserve.
D40	Replace	Existing – 47' Proposed – 48'	Direct bury pole. Existing wood pole.
P41	Replace	Existing – 66' Proposed – 75'	Direct bury pole. Existing wood pole. Remove fence for new pole location.
D42	Replace	Existing – 35' Proposed – 43'	Direct bury pole. Existing wood pole.
P43	Replace	Existing – 61' Proposed – 70'	Direct bury pole. Existing wood pole.
D44	Replace	Existing – 35' Proposed – 43'	Direct bury pole. Existing wood pole.
P45	Replace	Existing – 67' Proposed – 75'	Direct bury pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
D46	Replace	Existing – 42' Proposed – 45'	Micropile foundation pole. Existing wood pole.
P47	Replace	Existing – 65' Proposed – 80'	Micropile foundation pole. Existing wood pole. Stringing Site # 6. Install two temporary anchors. Temporary wood pole T1.
P48	Replace	Existing – 60' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P49	Replace	Existing – 76' Proposed – 95'	Micropile foundation pole. Existing wood pole.
P50	Replace	Existing – 54' Proposed – 70'	Micropile foundation pole. Existing wood pole. Overland travel 50' southwest from access road.
P51	Replace	Existing – 67' Proposed – 80'	Micropile foundation pole. Existing wood pole. Install temporary sled and block anchor. Temporary wood pole T2.
P52	Replace	Existing – 52' Proposed – 75'	Direct bury pole. Existing wood pole.
P53	Replace	Existing – 63' Proposed – 66'	Direct bury pole. Existing wood pole.
P54	Replace	Existing – 53' Proposed – 70'	Direct bury pole. Existing wood pole. Chain link gate.
P55	Replace	Existing – 58' Proposed – 70'	Direct bury pole. Existing wood pole. Chain link gate.
P56	Replace	Existing – 49' Proposed – 61'	Direct bury pole. Existing wood pole.
P57	Replace	Existing – 53' Proposed – 61'	Direct bury pole. Existing wood pole.
P58	Replace	Existing – 53' Proposed – 61'	Direct bury pole. Existing wood pole.
P59	Replace	Existing – 61' Proposed – 70'	Micropile foundation pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P60	Replace	Existing – 54' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P61	Replace	Existing – 57' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P62	Replace	Existing – 60' Proposed – 70'	Direct bury pole. Existing wood pole.
P63	Replace	Existing – 59' Proposed – 70'	Direct bury pole. Existing wood pole.
P64	Replace	Existing – 65' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P65	Replace	Existing – 67' Proposed – 100'	Micropile foundation pole. Existing wood pole. Install temporary sled and block anchor. Temporary wood pole T3.
R66	Remove	Existing – 61' Proposed – 0'	Remove from service. Mt. Gower Preserve.
P67	Replace	Existing – 66' Proposed – 100'	Micropile foundation pole. Existing wood pole. Mt. Gower Preserve.
P68	Replace	Existing – 65' Proposed – 65'	Micropile foundation pole. Existing wood pole. Mt. Gower Preserve.
P69	Replace	Existing – 66' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P70	Replace	Existing – 58' Proposed – 66'	Direct bury pole. Existing wood pole. Overland travel to pole.
P71	Replace	Existing – 72' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P72	Replace	Existing – 71' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P73	Replace	Existing – 57' Proposed – 61'	Direct bury pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P74	Replace	Existing – 58' Proposed – 61'	Direct bury pole. Existing wood pole.
P75	Replace	Existing – 57' Proposed – 80'	Micropile foundation pole. Existing wood pole. Mt. Gower Preserve.
P76	Replace	Existing – 67' Proposed – 70'	Micropile foundation pole. Existing wood pole. Mt. Gower Preserve.
P77	Replace	Existing – 63' Proposed – 66'	Direct bury pole. Existing wood pole. Mt. Gower Preserve.
P78	Replace	Existing – 57' Proposed – 70'	Direct bury pole. Existing wood pole. Mt. Gower Preserve.
P79	Replace	Existing – 62' Proposed – 79'	Direct bury pole. Existing wood pole. Mt. Gower Preserve.
P80	Replace	Existing – 69' Proposed – 79'	Direct bury pole. Existing wood pole. Mt. Gower Preserve.
P81	Replace	Existing – 67' Proposed – 79'	Direct bury pole. Existing wood pole. Mt. Gower Preserve.
P82	Replace	Existing – 57' Proposed – 70'	Direct bury pole. Existing wood pole.
P83	Replace	Existing – 57' Proposed – 61'	Direct bury pole. Existing wood pole.
P84	Replace	Existing – 58' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P85	Replace	Existing – 61' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P86	Replace	Existing – 61' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P87	Replace	Existing – 72' Proposed – 95'	Micropile foundation pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P88	Replace	Existing – 71' Proposed – 70'	Direct bury pole. Existing wood pole.
P89	Replace	Existing – 59' Proposed – 61'	Direct bury pole. Existing wood pole.
P90	Replace	Existing – 54' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P91	Replace	Existing – 63' Proposed – 80'	Micropile foundation pole. Existing steel pole. Use existing access road to pole. Overland travel through horse corral to access road. Remove fence.
P92	Replace	Existing – 62' Proposed – 90'	Micropile foundation pole. Existing wood pole. Use existing access road to pole. Overland travel through horse corral to access road.
P93	Replace	Existing – 57' Proposed – 95'	Micropile foundation pole. Existing wood pole. Overland travel north from access road.
P94	Replace	Existing – 70' Proposed – 70'	Direct bury pole. Existing wood pole. Overland travel 200' to pole.
P95	Replace	Existing – 72' Proposed – 95'	Micropile foundation pole. Existing wood pole. Overland travel 150' to pole.
P96	Replace	Existing – 77' Proposed – 95'	Micropile foundation pole. Existing wood pole. Re-establish access road.
P97	Replace	Existing – 70' Proposed – 70'	Micropile foundation pole. Existing wood pole. Re-establish access road.
P98	Replace	Existing – 56' Proposed – 70'	Direct bury pole. Existing wood pole.
P99	Replace	Existing – 72' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P100	Replace	Existing – 68' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P101	Replace	Existing – 68' Proposed – 75'	Micropile foundation pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P102	Replace	Existing – 66' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P103	Replace	Existing – 66' Proposed – 75'	Micropile foundation pole. Existing wood pole. Pole will be moved to the north out of water resource feature.
P104	Replace	Existing – 71' Proposed – 80'	Micropile foundation pole. Existing wood pole. Pole will be moved to the north out of water resource feature.
P105	Replace	Existing – 67' Proposed – 85'	Micropile foundation pole. Existing wood pole. Pole will be moved to the north out of water resource feature.
P106	Replace	Existing – 72' Proposed – 100'	Micropile foundation pole. Existing wood pole.
R107	Remove	Existing – 67' Proposed – 0'	Remove from service. Pole butt to remain in place.
P108	Replace	Existing – 68' Proposed – 100'	Micropile foundation pole. Existing steel pole.
P109	Replace	Existing – 76' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P110	Replace	Existing – 77' Proposed – 95'	Micropile foundation pole. Existing wood pole.
P111	Replace	Existing – 66' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P112	Replace	Existing – 66' Proposed – 66'	Direct bury pole. Existing wood pole.
P113	Replace	Existing – 67' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P114	Replace	Existing – 71' Proposed – 110'	Micropile foundation pole. Existing wood pole. Pole will be moved across road.
P115	Pole Top Work	Existing – 85' Proposed – 85'	Reconductor work only. Pole previously replaced.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P116	Pole Top Work	Existing – 85' Proposed – 85'	Reconductor work only. Pole previously replaced.
P117	Replace	Existing – 77' Proposed – 100'	Micropile foundation pole. Existing wood pole.
P118	Replace	Existing – 68' Proposed – 70'	Direct bury pole. Existing wood pole.
P119	Replace	Existing – 68' Proposed – 75'	Direct bury pole. Existing wood pole.
P120	Replace	Existing – 69' Proposed – 79'	Direct bury pole. Existing wood pole.
P121	Replace	Existing – 71' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P122	Replace	Existing – 61' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P123	Replace	Existing – 61' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P124	Replace	Existing – 67' Proposed – 65'	Micropile foundation pole. Existing wood pole.
P125	Replace	Existing – 73' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P126	Replace	Existing – 71' Proposed – 80'	Micropile foundation pole. Existing steel pole.
P127	Replace	Existing – 74' Proposed – 70'	Direct bury pole. Existing wood pole.
P128	Replace	Existing – 72' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P129	Replace	Existing – 59' Proposed – 75'	Micropile foundation pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P130	Replace	Existing – 57' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P131	Replace	Existing – 63' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P132	Replace	Existing – 67' Proposed – 65'	Micropile foundation pole. Existing wood pole.
P133	Replace	Existing – 66' Proposed – 66'	Direct bury pole. Existing wood pole.
P134	Replace	Existing – 68' Proposed – 66'	Direct bury pole. Existing wood pole.
P135	Replace	Existing – 66' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P136	Replace	Existing – 72' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P137	Replace	Existing – 62' Proposed – 66'	Direct bury pole. Existing wood pole.
P138	Replace	Existing – 73' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P139	Replace	Existing – 69' Proposed – 80'	Micropile foundation pole. Existing wood pole.
P140	Replace	Existing – 61' Proposed – 61'	Direct bury pole. Existing wood pole.
P141	Replace	Existing – 73' Proposed – 75'	Micropile foundation pole. Existing wood pole.
P142	Replace	Existing – 70' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P143	Replace	Existing – 61' Proposed – 70'	Micropile foundation pole. Existing wood pole.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P144	Replace	Existing – 61' Proposed – 61'	Direct bury pole. Existing wood pole.
P145	Replace	Existing – 61' Proposed – 70'	Direct bury pole. Existing wood pole.
P146	Replace	Existing – 67' Proposed – 85'	Micropile foundation pole. Existing wood pole.
P147	Replace	Existing – 67' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P148	Replace	Existing – 68' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P149	Replace	Existing – 68' Proposed – 70'	Direct bury pole. Existing wood pole.
P150	Replace	Existing – 62' Proposed – 66'	Direct bury pole. Existing steel pole. Install temporary sled and block anchor.
P151	Replace	Existing – 66' Proposed – 80'	Micropile foundation pole. Existing wood pole. Temporary wood poles T4 and T5.
P152	Replace	Existing – 68' Proposed – 70'	Direct bury pole. Existing wood pole. Overland travel from access road to pole.
P153	Replace	Existing – 68' Proposed – 70'	Direct bury pole. Existing wood pole. Overland travel.
P154	Replace	Existing – 67' Proposed – 70'	Micropile foundation pole. Existing wood pole.
P155	Replace	Existing – 65' Proposed – 75'	Direct bury pole. Existing wood pole. Overland travel 200' from access road.
P156	Replace	Existing – 67' Proposed – 95'	Micropile foundation pole. Existing wood pole. Temporary wood pole T6.
P157	Replace	Existing – 66' Proposed – 70'	Direct bury pole. Existing wood pole. Overland travel 375' to pole from access road.

Pole Detail Table

Site Location/ Pole Number ¹	Proposed Action(s)	Approximate Above Ground Pole Height(s) in Feet ²	Details
P158	Replace	Existing – 68' Proposed – 66'	Direct bury pole. Existing wood pole. Overland travel 400' from access road east.
P159	Replace	Existing – 67' Proposed – 80'	Micropile foundation pole. Existing wood pole. Pole accessed via overland travel from Columbia Street or 150' from access road east. Temporary wood pole T7.
P160	Replace	Existing – 67' Proposed – 75'	Direct bury pole. Existing wood pole. Overland travel from Columbia Street to the pole.
P161	Replace	Existing – 66' Proposed – 85'	Micropile foundation pole. Existing wood pole. Overland travel south off California State Route (Hwy) 78, 100' to pole. Need to install traffic control cut gate.
P162	Replace	Existing – 67' Proposed – 80'	Micropile foundation pole. Existing wood pole. Need to install traffic control cut gate. Micropile foundation pole. Access via Santa Ysabel Substation. Pole to be relocated 15' south of existing pole outside substation.
P163	Pole top work	Existing – 57' Proposed – 57'	Existing steel pole. Pole top work only. Hardware only. Overland travel from the Santa Ysabel substation.
D182	Remove	Existing – 60' Proposed – 0'	Pole to be removed from service.
T1	Temporary		Temporary pole.
T2	Temporary		Temporary pole.
T3	Temporary		Temporary pole.
T4	Temporary		Temporary pole.
T5	Temporary		Temporary pole.
T6	Temporary		Temporary pole.
T7	Temporary		Temporary pole.

*Fiber optic cable to be installed on all poles.

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
Guard Structures		
GS1	Install	Install temporary guard structure east of pole P41, west side of Arena Way.
GS2	Install	Install temporary guard structure west of pole D42, east side of Arena Way.
GS3	Install	Install temporary guard structure east of pole P43, west side of Harvest Point Way.
GS4	Install	Install temporary guard structure east of pole P43, east side of Harvest Point Way.
GS5	Install	Install temporary guard structure north of pole P50, south side of Vista Ramona Road.
GS6	Install	Install temporary guard structure south of pole P51, north side of Vista Ramona Road.
GS7	Install	Install temporary guard structure east of pole P93, west side of Littlepage Road.
GS8	Install	Install temporary guard structure west of pole P94, east side of Littlepage Road.
GS9	Install	Install temporary guard structure north of pole P161, south side of Hwy 78
GS10	Install	Install temporary guard structure south of pole P162, north side of Hwy 78.
Stringing Sites		
SS 1	Access	Located west of Creelman substation. Approximately 150' x 30' (4,500 sq. ft.).
SS 2	Access	Located adjacent to pole P3. Approximately 150' x 40' (6,000 sq. ft.).
SS 3	Access	Located adjacent to pole P2. Approximately 150' x 40' (6,000 sq. ft.).
SS 4	Access	Located north of pole P25. Approximately 150' x 14' (2,100 sq. ft.).
SS 5	Access	Located adjacent to pole P29. Approximately 150' x 150' (22,500 sq. ft.).

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
SS 6	Access	Located south of pole P47. Approximately 150' x 110' (16,500 sq. ft.).
SS 7	Access	Located east of pole P47. Approximately 150' x 14' (2,100 sq. ft.).
SS 8	Access	Located east of pole P51. Approximately 150' x 14' (2,100 sq. ft.).
SS 9	Access	Located adjacent to pole P64. Approximately 150' x 50' (7,500 sq. ft.).
SS 10	Access	Located adjacent to pole P64. Approximately 150' x 75' (11,250 sq. ft.).
SS 11	Access	Located adjacent to pole P65. Approximately 150' x 80' (12,000 sq. ft.).
SS 12	Access	Located east of pole P83. Approximately 150' x 150' (22,500 sq. ft.).
SS 13	Access	Located east of pole P84. Approximately 150' x 150' (22,500 sq. ft.).
SS 14	Access	Located west of pole P100. Approximately 150' x 14' (2,100 sq. ft.).
SS 15	Access	Located east of pole P100. Approximately 150' x 14' (2,100 sq. ft.).
SS 16	Access	Located adjacent to pole P114. Approximately 150' x 150' (22,500 sq. ft.).
SS 17	Access	Located between poles P122 and P123. Approximately 150' x 14' (2,100 sq. ft.).
SS 18	Access	Located adjacent to pole P145. Approximately 150' x 14' (2,100 sq. ft.).
SS 19	Access	Located east of pole P146. Approximately 150' x 75' (11,250 sq. ft.).
SS 20	Access	Located adjacent to pole P151. Approximately 150' x 150' (22,500 sq. ft.).

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
SS 21	Access	Located adjacent to pole P151. Approximately 150' x 150' (22,500 sq. ft.).
SS 22	Access	Located adjacent to pole P163 inside the Santa Ysabel Substation. Approximately 150' x 150' (22,500 sq. ft.).
Staging Yards and Helicopter Landing Zones		
Creelman Staging Yard	Access	This site is 1 acre. Access is via Creelman Lane and Ashley Road. Also a helicopter landing zone.
Warnock Staging Yard	Access	This site is 258,311 sq. ft. (5.93 acres) Access is via Warnock Road. Also a helicopter landing zone.
Mt. Gower HLZ	Access	Site is 75' x 75' (5,625 sq. ft.). Located in Mt. Gower Preserve parking area, accessed from Gunn Stage Rd.
Littlepage Road HLZ	Access	Located adjacent to pole P95, this site is 200' x 200' (40,000 sq. ft.) Access via SDG&E access road.
Woodlot Staging Yard	Access	This site is 27,000 sq. ft. (0.62 acre). Access via California State Route Highway 78. Also a helicopter landing zone.
Santa Ysabel Staging Yard	Access	This site is 283,140 sq. ft. (6.5 acres). Access via California State Route Highway 78. Will also have helicopter landing zone.
Footpaths		
Footpath to P66	Access	Existing footpath 1000' x 3', no clearing required. Clear extension to pole, 4' x 20'.
Footpath to P103	Access	Footpath is 50' x 4' no mowing allowed.
Footpath to P104	Access	Footpath is 75' x 4' no mowing allowed.
Footpath from P103 to P107	Access	Footpath is 2,750' x 4' no mowing allowed.

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
Footpath to P105	Access	Footpath is 300' x 4' no mowing allowed.
Footpath to P106	Access	Footpath is 500' x 4' no mowing allowed.
Footpath to P114	Access	Footpath is 500' x 4' no mowing allowed.
Turnaround Areas		
Turnaround Area P115	Access	50' x 14' turnaround area west of pole P115 at end of access road.
Turnaround Area P128	Access	14' x 25' turnaround area east of pole P128.
Turnaround Area P129	Access	14' x 20' turnaround area east of pole P129.
Underground		
P2 Underground Trenching	Trench	Trenching 50' x 0.5' for fiber optic cable installation underground. Creelman Sub.
D182 Underground Trenching	Trench	Trenching 100' x 0.5' and 5' x 2' for the fiber optic cable installation underground. Santa Ysabel Sub. Install permanent anchor for pole D182.
D6 Underground Trenching	Trench	Trenching 15' x 2' area for undergrounding of existing distribution line. Intercept and re-route 5" conduit to D6.
D167 Underground Trenching	Trench	Trenching 20' x 2' for undergrounding of existing distribution line. Intercept and re-route 5" conduit to D167.

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
D167 Underground Trenching	Trench	Trenching 30' x 2' area for undergrounding of existing distribution line intercept and re-route 5" conduit to transformer location 10' east of new pole location for D167.
D167 Underground Trenching	Trench	Trenching 4' x 4' for undergrounding of existing distribution line to new transformer location 10' east of new pole location D167.
D167 Underground Trenching	Trench	Trenching 10' x 1' for undergrounding of existing distribution line from new transformer to new pole location D167.
D170 Underground Trenching	Trench	Trenching 10' x 1' for undergrounding of existing distribution line, from hand hole to new pole location P170.
D170 Underground Trenching	Trench	Trenching 3.5' x 2.667' for existing distribution line secondary hand hole 5' southwest of new pole location P170.
D170 Underground Trenching	Trench	Trenching 3' x 3' for undergrounding of existing distribution line. Intercept and re-route to new pole location P170.
D42 Underground Trenching	Trench	Trenching 10' x 2' for undergrounding of existing distribution line, intercept and re-route 5" conduit to new pole location D42.
D46 Underground Trenching	Trench	Trenching 55' x 2' for undergrounding of existing distribution line from an existing pole to new pole location D46.
D47 Underground Trenching	Trench	Trenching 40' x 2' for undergrounding of existing distribution line. Intercept from an existing pole to new pole location P47.
D71 Underground Trenching	Trench	Trenching 3' x 3' for undergrounding of existing distribution line. Intercept hole on existing conduit by new pole location P71.
D71 Underground Trenching	Trench	Trenching 10' x 1' for undergrounding of existing distribution line for conduit from new hand hole to new pole location P71.

Pole Detail Table

Site Location/ Map I.D. ¹	Proposed Action	Details
D71 Underground Trenching	Trench	Trenching 3.5' x 2.667' for undergrounding of existing distribution line to secondary hand hole 5' southwest of existing pole P71.

APPENDIX 3-B
DETAILED ROUTE MAP

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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 1 of 50)

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Brad Carter

Created By:
TRC

Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- Proposed Trench
- Proposed Footpath
- Proposed Overland Travel
- Stringing Site
- Staging Yard
- Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
- Top Above Communication
- Wood Pole
- Existing Access Road

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

0 120 240 360 Feet



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
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Existing (To Be Replaced)

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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 2 of 50)



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Date:

2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 3 of 50)



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Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- === Proposed Trench
- Proposed Footpath
- Proposed Overland Travel
- Stringing Site
- Staging Yard
- Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

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- Existing Access Road

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R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 4 of 50)



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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ══ Proposed Trench
- ══ Proposed Footpath
- ══ Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- ▨ Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
- Top Above Communication
- Wood Pole
- Existing Access Road

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 5 of 50)

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Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
-  Top Above Communication
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-  Existing Access Road

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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 6 of 50)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

- P = Power Line Poles
D = Distribution Line Poles
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R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 7 of 50)





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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
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-  Wood Pole
-  Existing Access Road

P = Power Line Poles
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 8 of 50)



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Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
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-  Remove From Service
-  Top Above Communication
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-  Existing Access Road

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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 9 of 50)



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Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
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- P = Power Line Poles
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SS = Stringing Sites

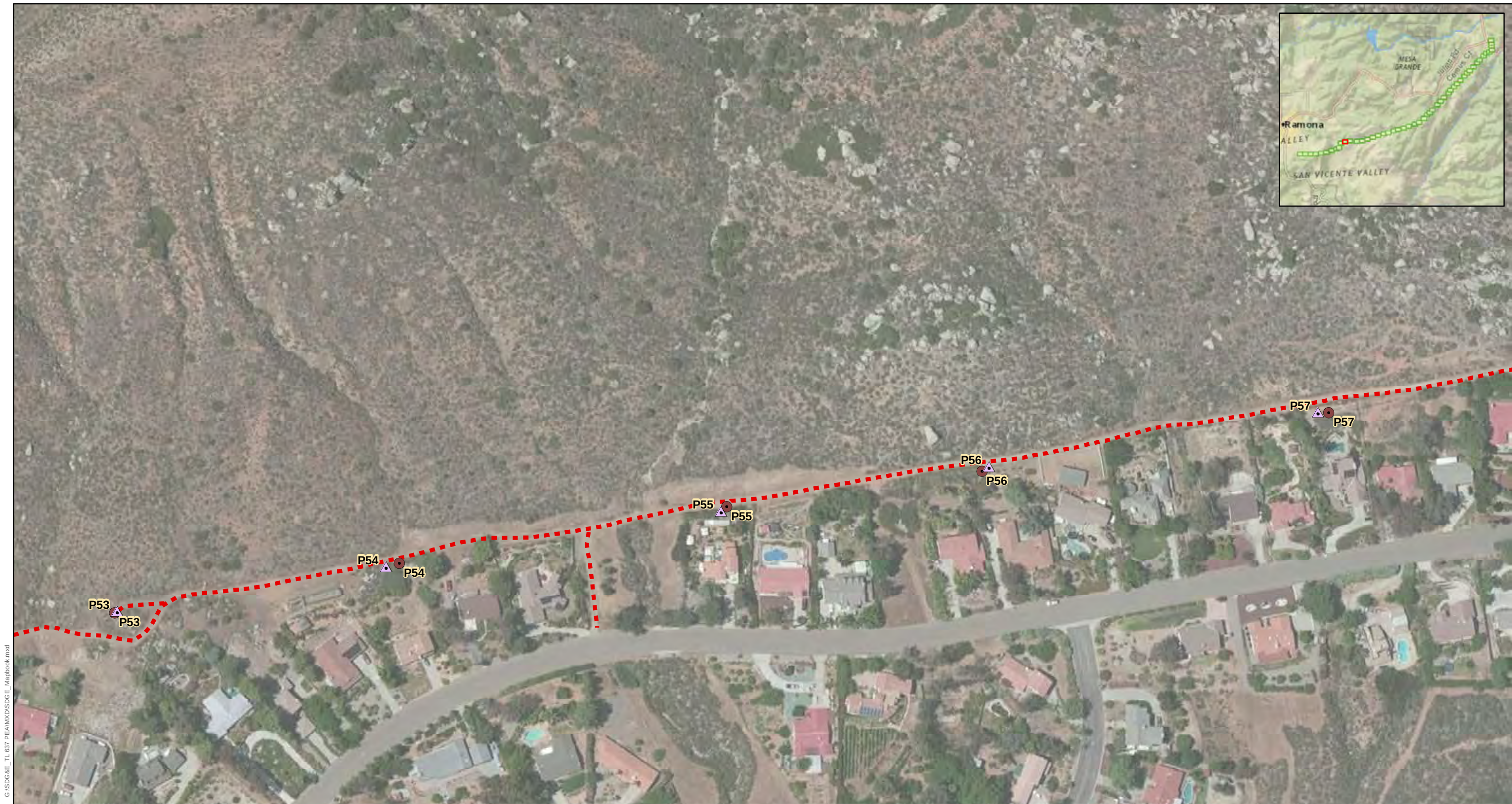
Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 10 of 50)





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Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

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SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

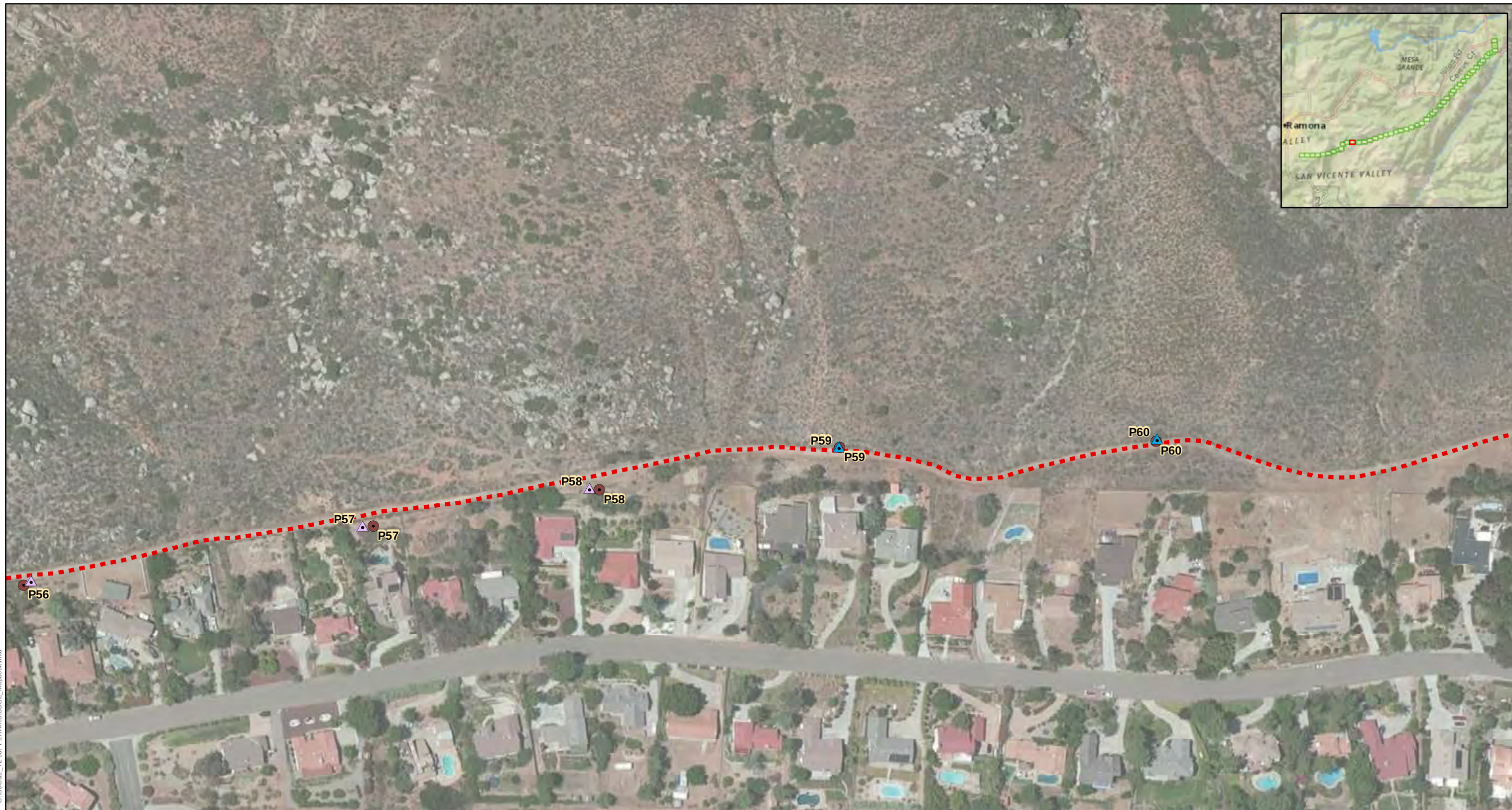
Detailed Route Map

Appendix 3-B

(Sheet 11 of 50)



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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ══ Proposed Trench
- ▬ Proposed Footpath
- Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
- Top Above Communication
- Wood Pole
- Existing Access Road

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 12 of 50)

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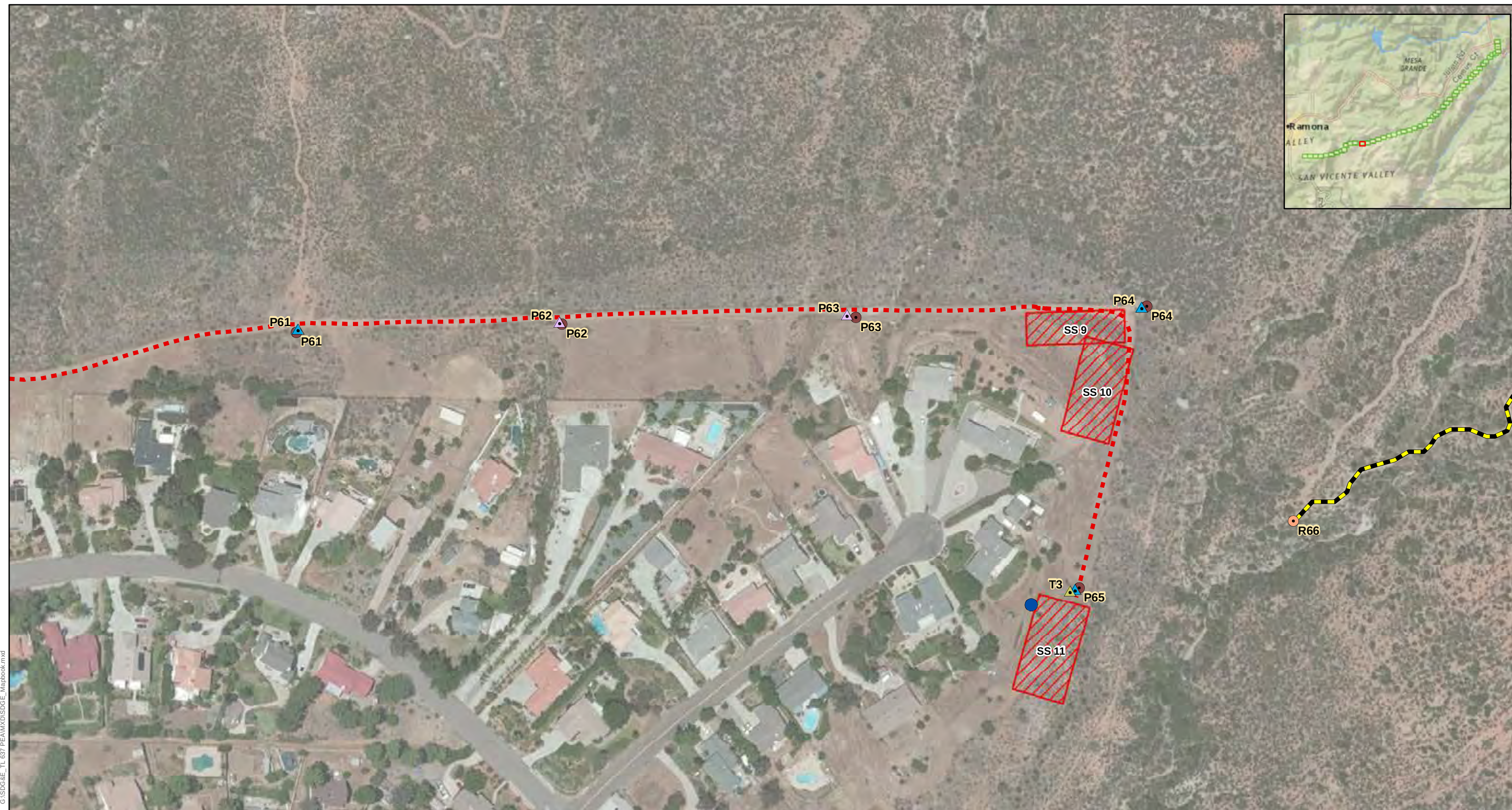

Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)



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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ══ Proposed Trench
- ══ Proposed Footpath
- ══ Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- ▨ Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
- Top Above Communication
- Wood Pole
- Existing Access Road

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

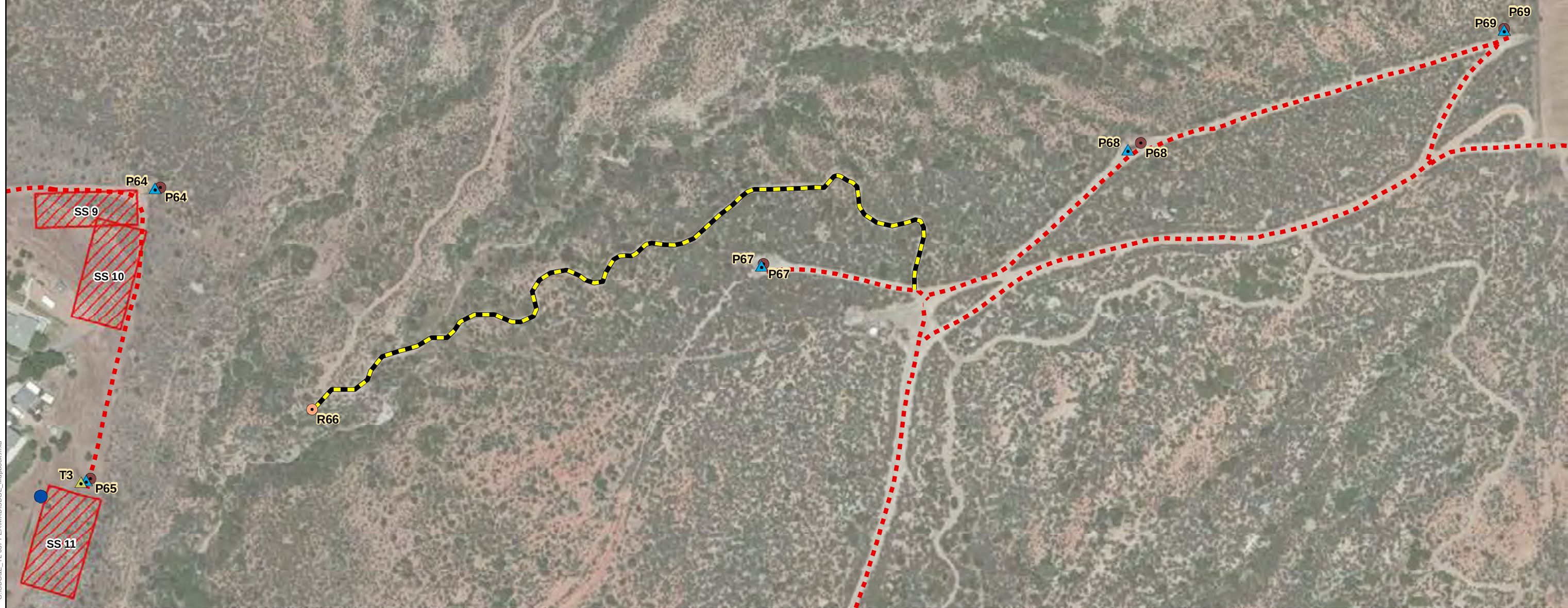
(Sheet 13 of 50)

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Date: 2/15/2013	
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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block

- Proposed Trench
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- Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- ▨ Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
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- Existing Access Road

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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 14 of 50)

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Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
-  Top Above Communication
-  Wood Pole
-  Existing Access Road

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 15 of 50)

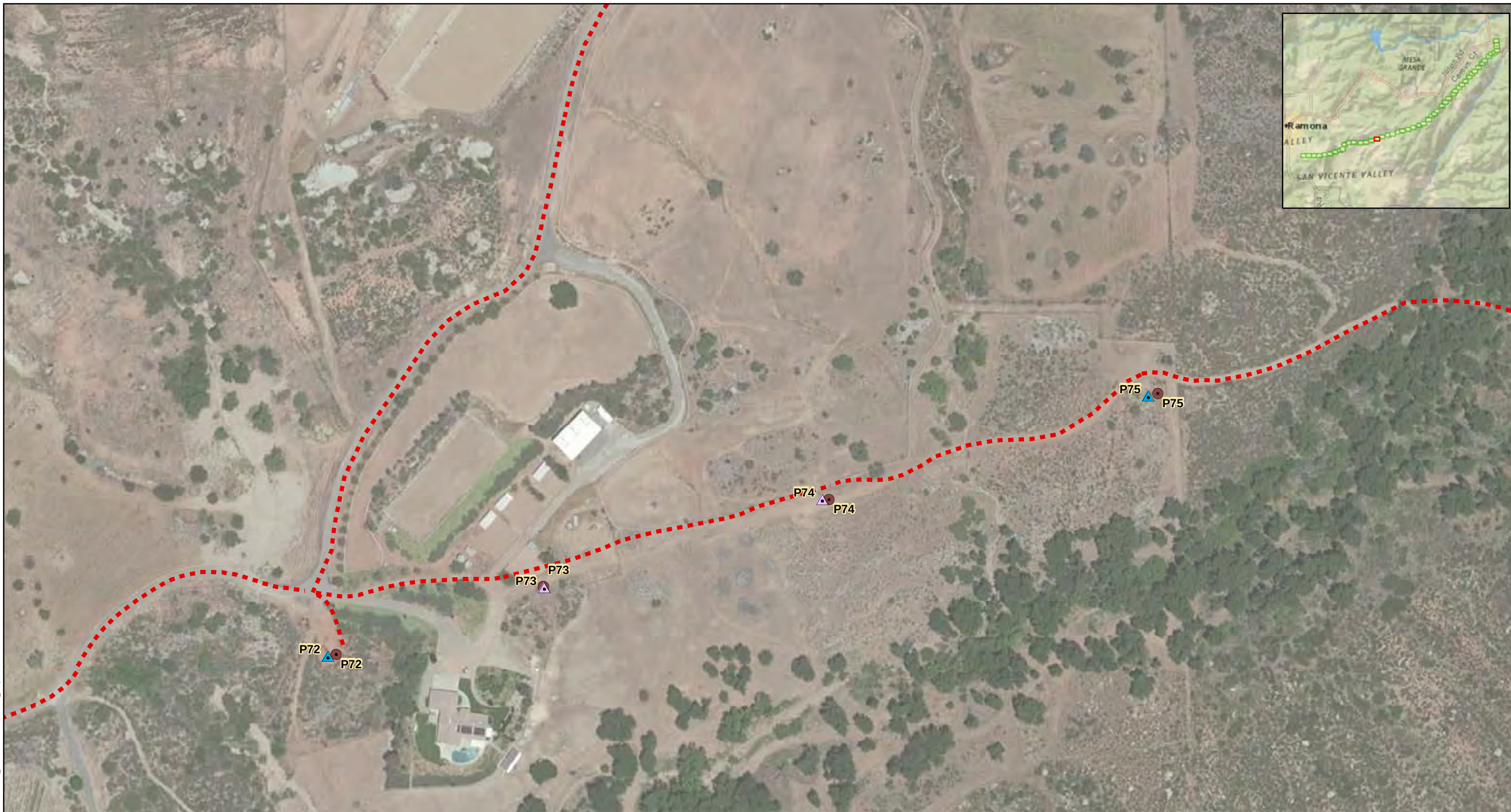
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Feet






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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ══ Proposed Trench
- ▬ Proposed Footpath
- Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- ▨ Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
- Steel Pole
- Remove From Service
- Top Above Communication
- Wood Pole
- Existing Access Road

- P = Power Line Poles
- D = Distribution Line Poles
- T = Temporary Poles
- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 16 of 50)

Created For:
Brad Carter

Created By:
TRC

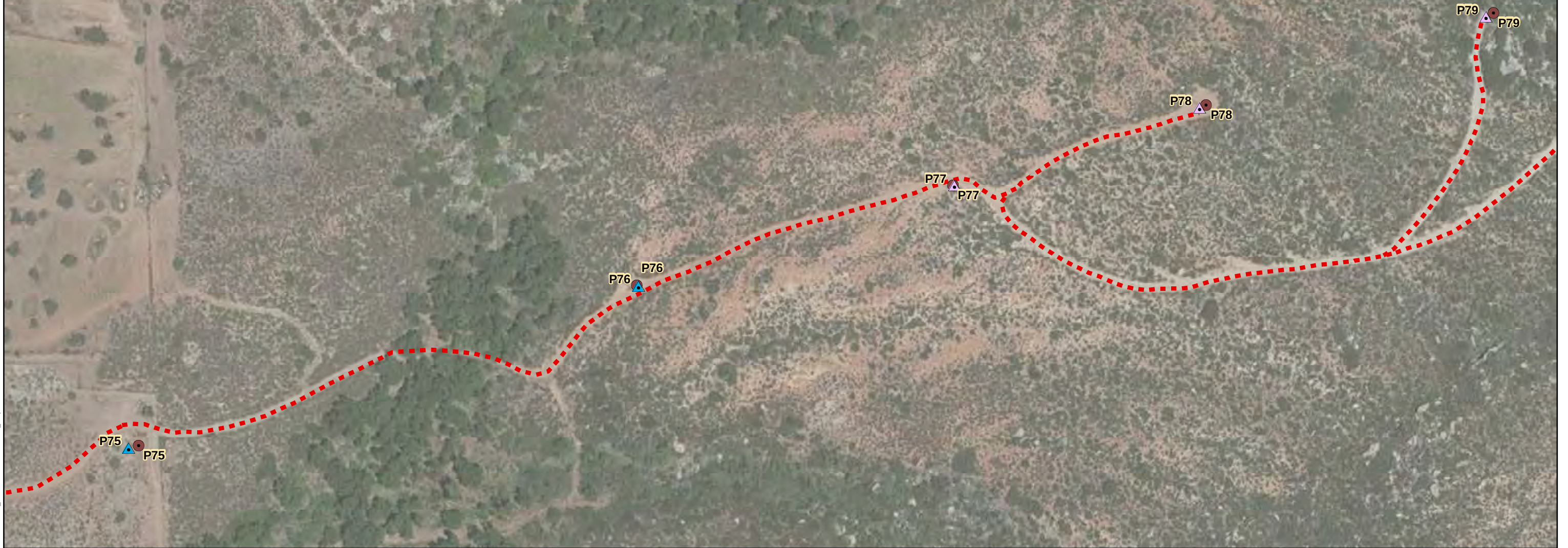
Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

- P = Power Line Poles
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 17 of 50)



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Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
-  Top Above Communication
-  Wood Pole
-  Existing Access Road

- P = Power Line Poles
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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 18 of 50)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

- P = Power Line Poles
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GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

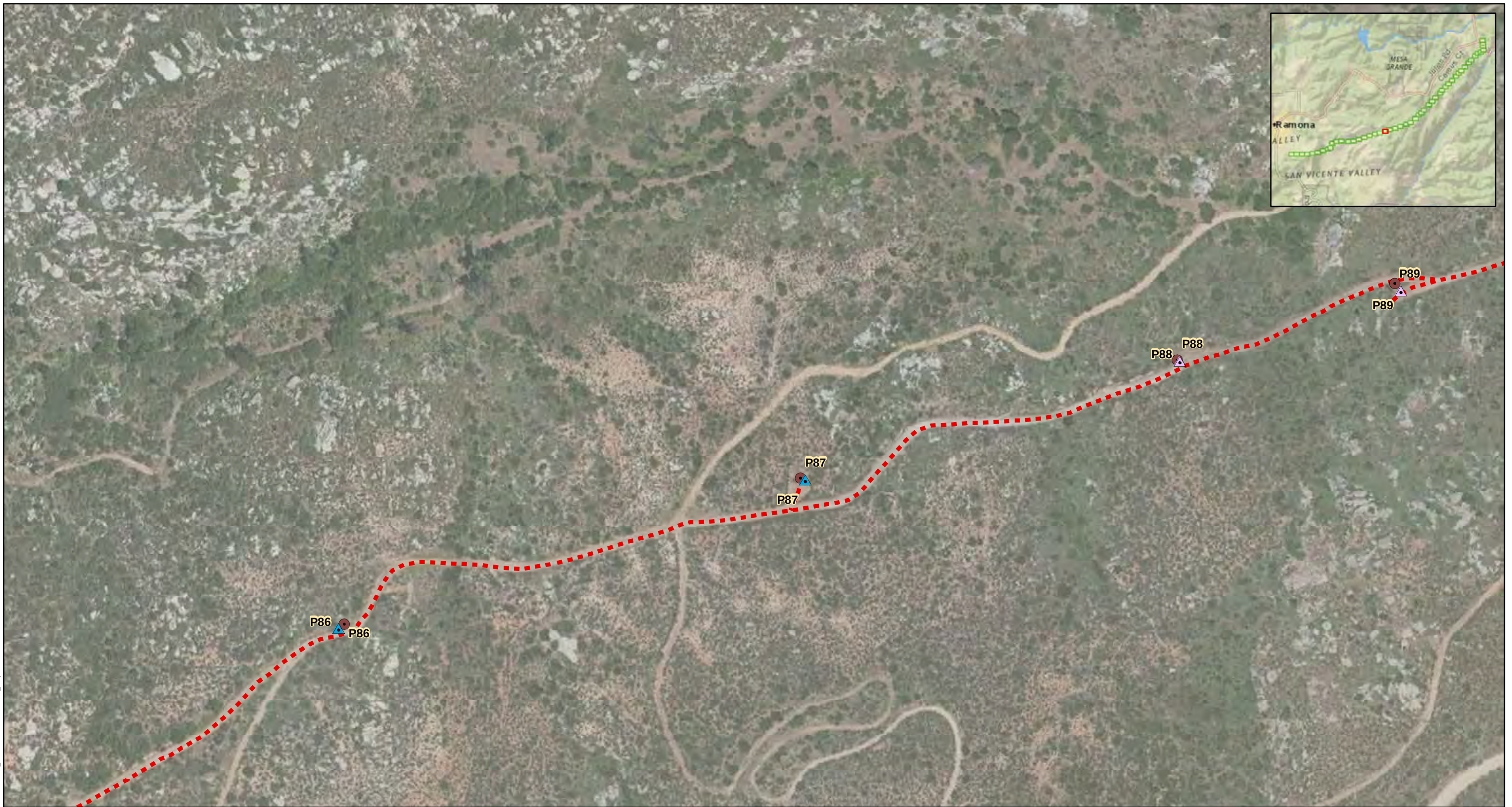
Detailed Route Map

Appendix 3-B

(Sheet 19 of 50)



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Brad Carter



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
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- P = Power Line Poles
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GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 20 of 50)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 21 of 50)



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P93

P92

P92

P91

P91

Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block

- Proposed Trench
- Proposed Footpath
- Proposed Overland Travel
- Stringing Site
- Staging Yard
- Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

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- Steel Pole
- Remove From Service
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- Wood Pole
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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 22 of 50)

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
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-  Wood Pole
-  Existing Access Road

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- T = Temporary Poles
- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

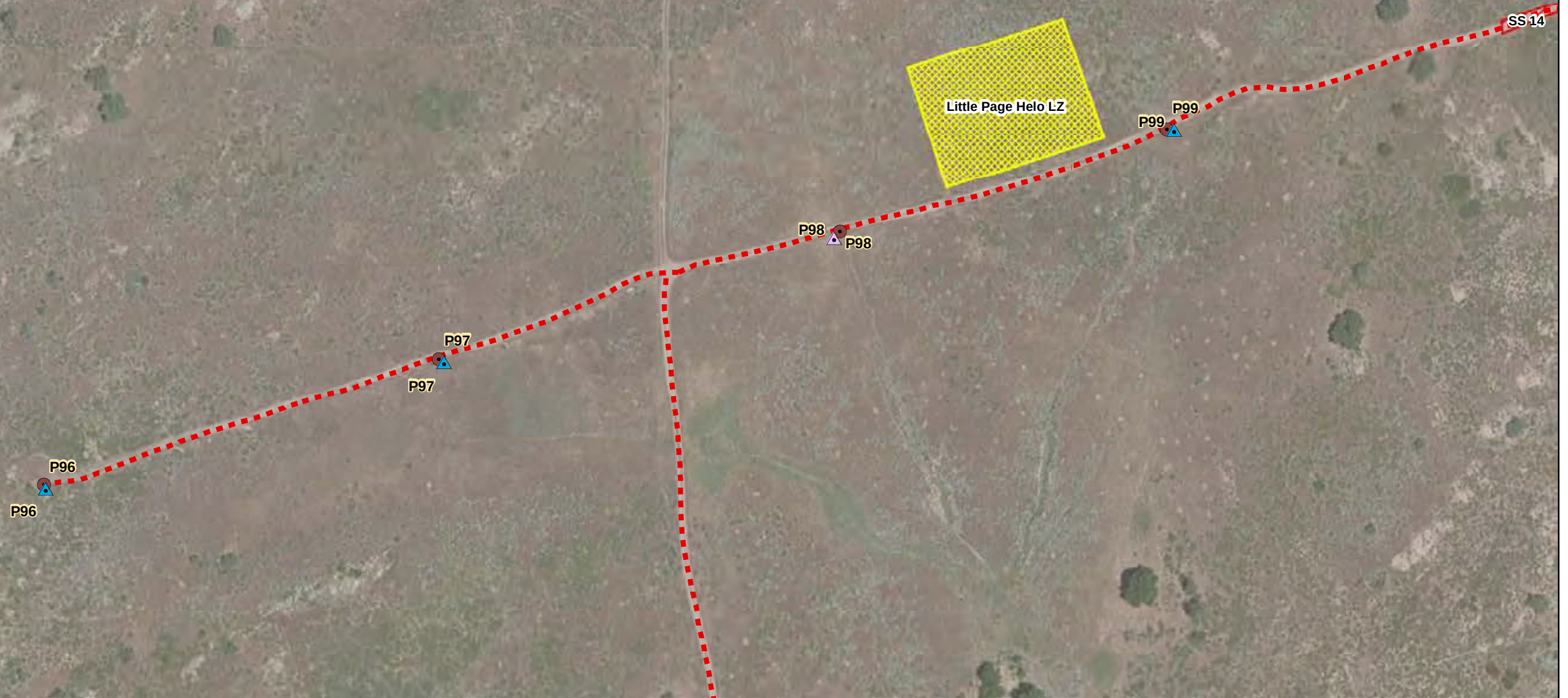
Detailed Route Map

Appendix 3-B

(Sheet 23 of 50)



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Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

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- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

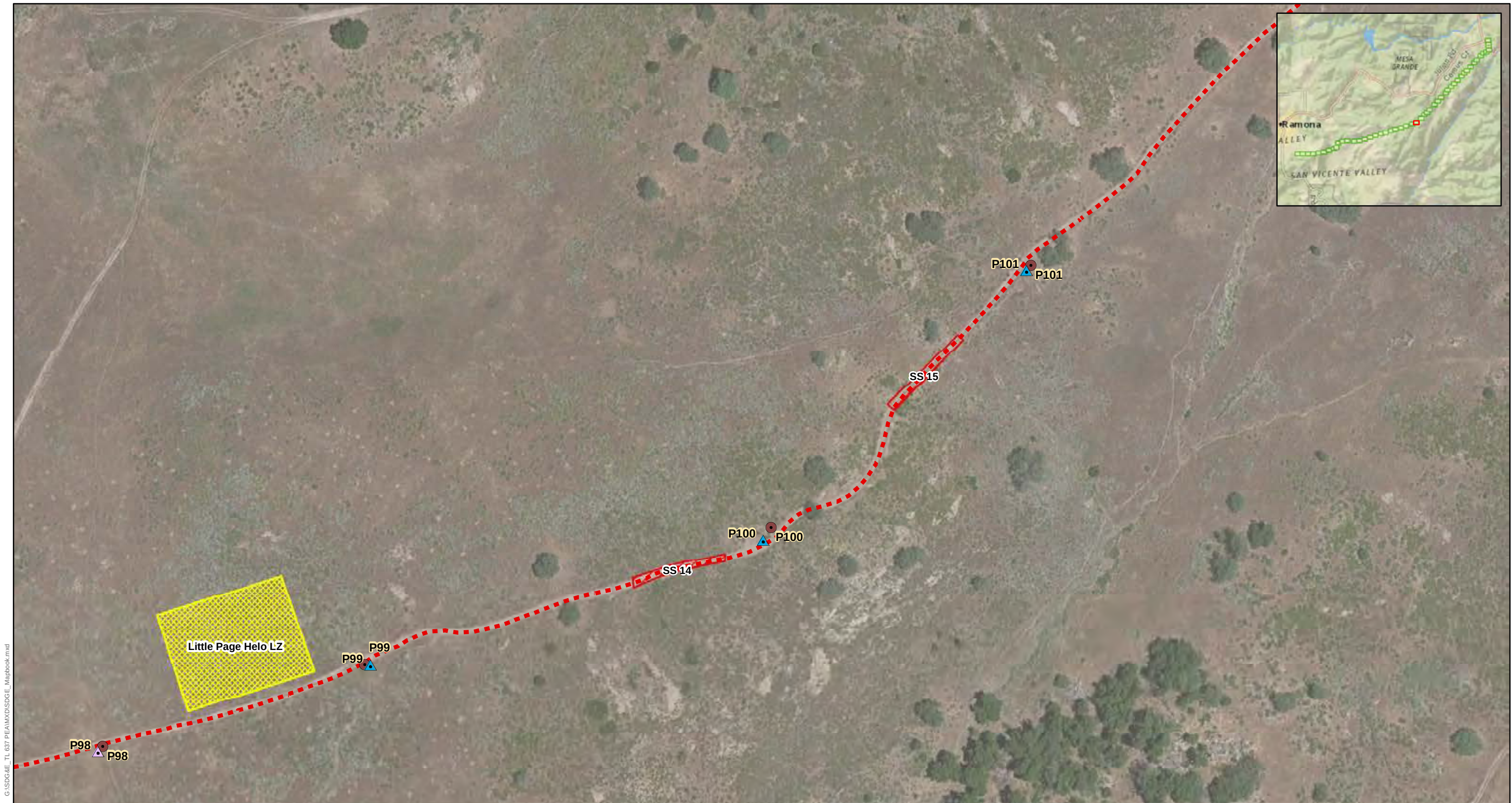
Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 24 of 50)





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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

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R = Poles to be Removed
A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project
Detailed Route Map
Appendix 3-B
(Sheet 25 of 50)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

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GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 26 of 50)



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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
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-  Wood Pole
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- P = Power Line Poles
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- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

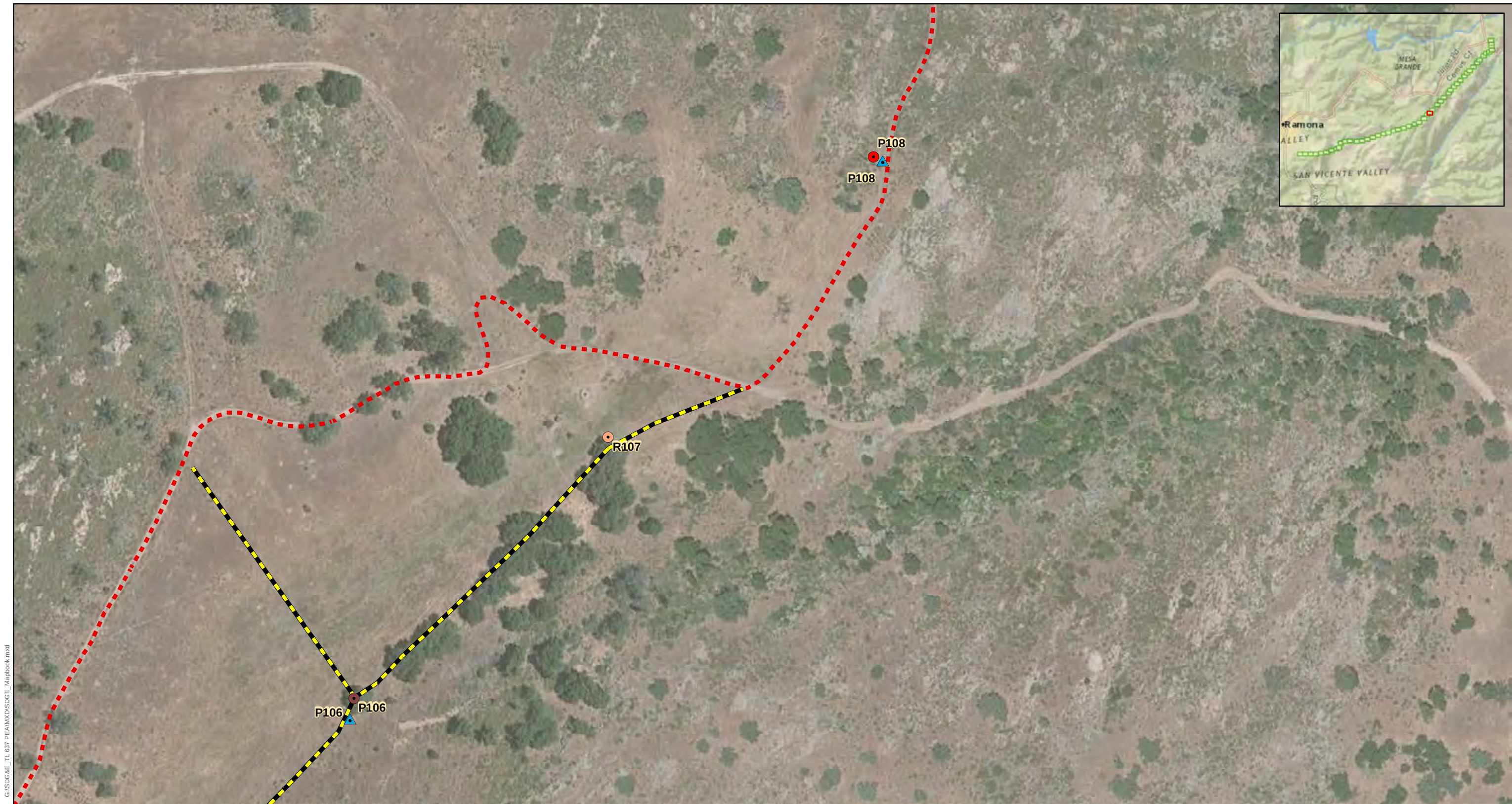
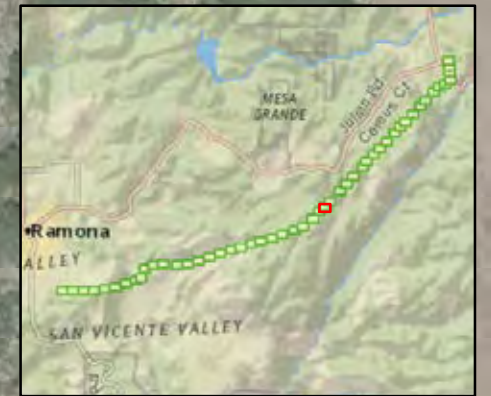
Detailed Route Map

Appendix 3-B

(Sheet 27 of 50)



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Created By:


Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

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- A = Anchors
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- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 28 of 50)



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Proposed

- Micropile Foundation Pole
- Direct Bury Pole
- Pole Top Work
- Temporary Pole
- Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- Proposed Trench
- Proposed Footpath
- Proposed Overland Travel
- Stringing Site
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Existing (To Be Replaced)

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- Steel Pole
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- P = Power Line Poles
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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 29 of 50)

Created For:
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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ══ Proposed Trench
- ══ Proposed Footpath
- ══ Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- ▨ Turn Around Area

Existing (To Be Replaced)

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- P = Power Line Poles
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- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 30 of 50)

Created For:

Brad Carter

Created By:



Date:

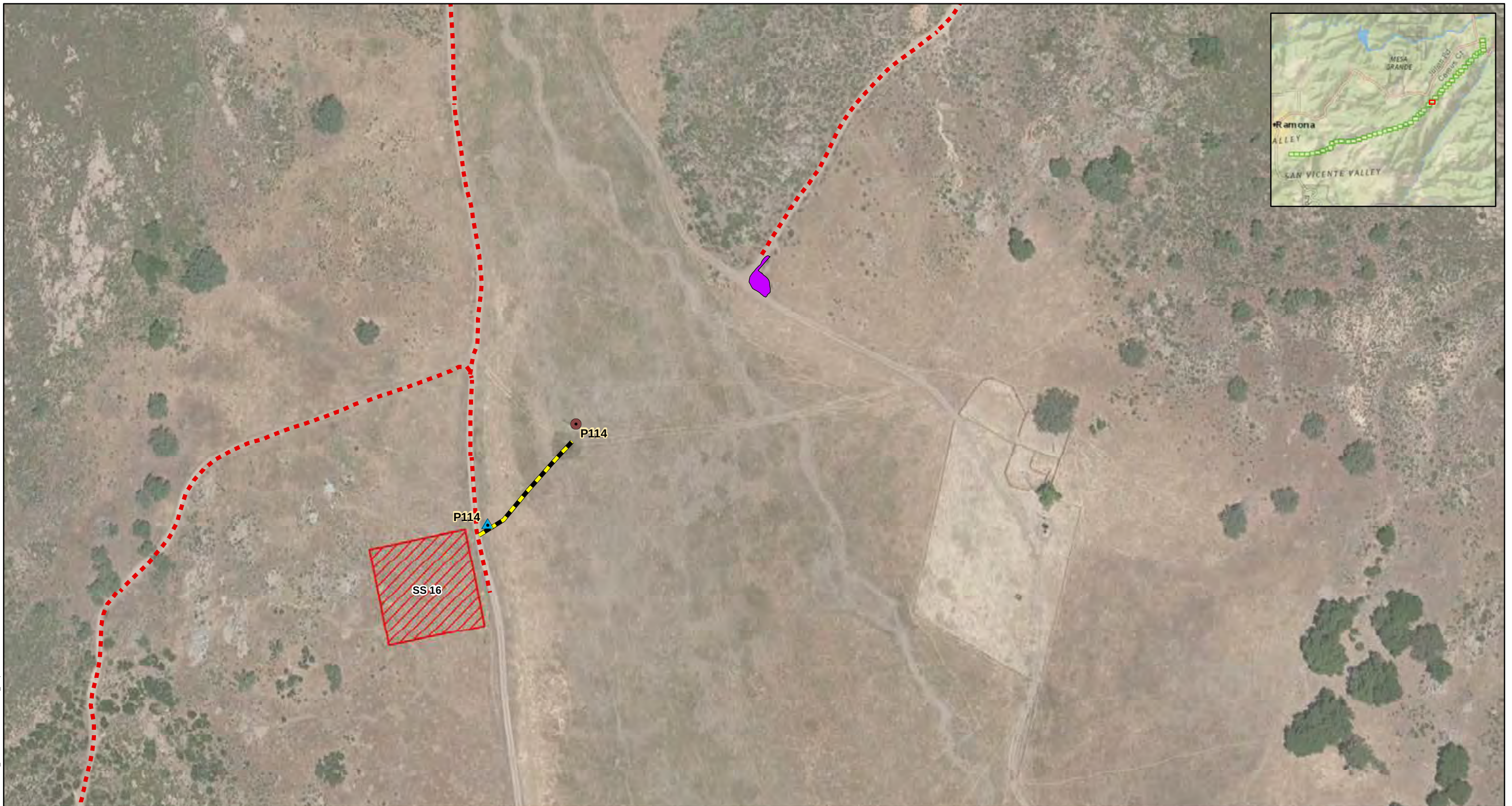
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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- ▬ Proposed Trench
- ▬ Proposed Footpath
- ▬ Proposed Overland Travel
- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

- Pole Top Work
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- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 31 of 50)

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Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- === Proposed Trench
- ▬ Proposed Footpath
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- ▨ Stringing Site
- ▨ Staging Yard
- ▨ Helicopter Landing Zone
- Turn Around Area

Existing (To Be Replaced)

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A = Anchors
GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 32 of 50)

Created For:

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Created By:



Date:

2/15/2013

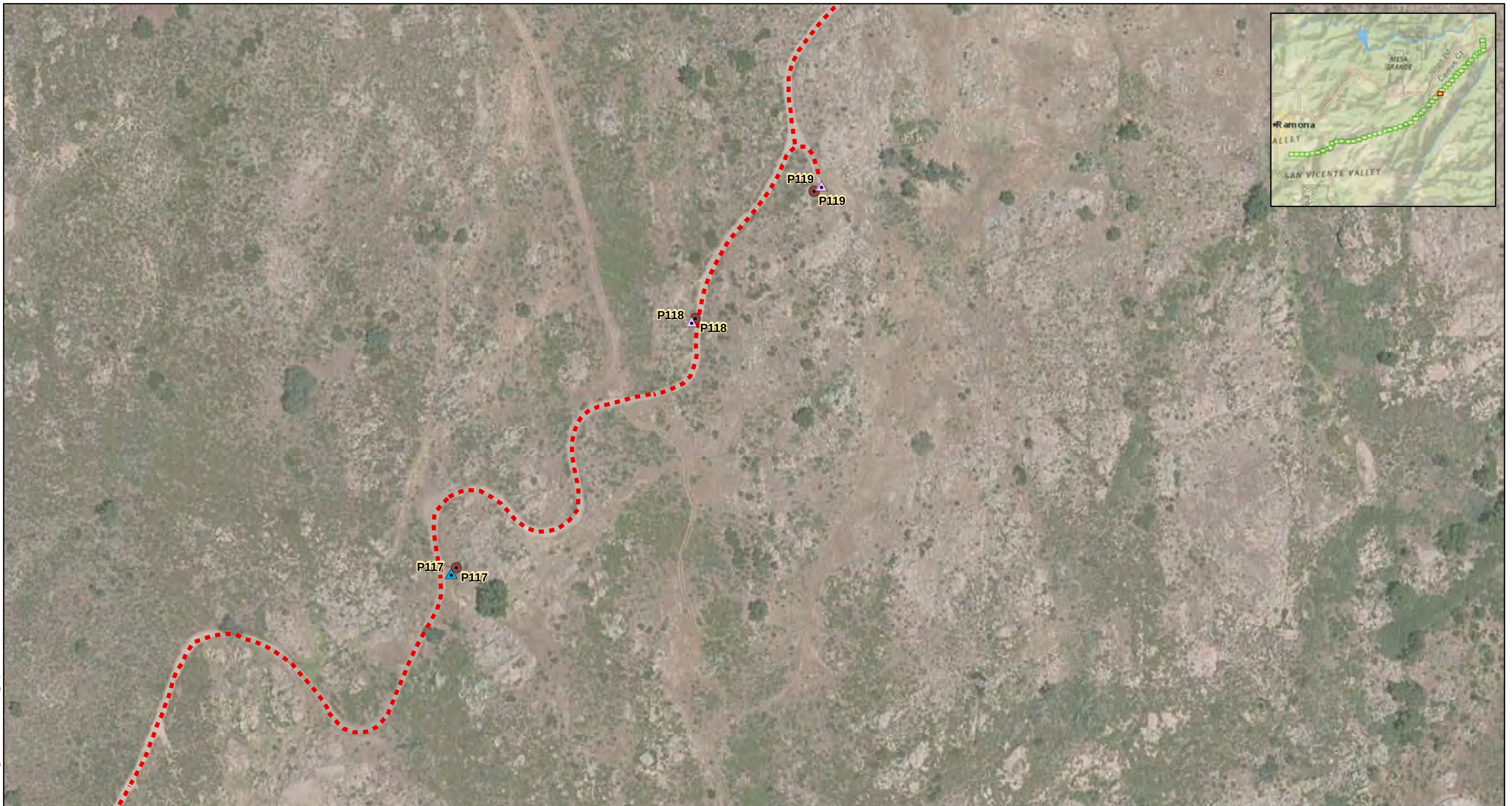
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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

0 120 240 360 Feet



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Created By:



Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
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P = Power Line Poles
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 33 of 50)



G:\SDG&E_TL_637 PEAMXD\SDGE_Mapbook.mxd



Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
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- Proposed Sled and Block
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- A = Anchors
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 34 of 50)

Created For:
Brad Carter

Created By:
TRC

Date: 2/15/2013

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Date: 2/15/2013

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Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
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|  Proposed Sled and Block |  Turn Around Area |

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- | |
|---|
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|  Wood Pole |
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GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 35 of 50)



G:\SDG&E_TL_637 PEAMX\SDG&E_Mapbook.mxd



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Created By:

Brad Carter



Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
|  Top Above Communication |
|  Wood Pole |
|  Existing Access Road |

P = Power Line Poles
D = Distribution Line Poles
T = Temporary Poles
R = Poles to be Removed
A = Anchors
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SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 36 of 50)



G:\SDG&E_TL_637 PEAMX\SDG&E_Mapbook.mxd



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Created By:

Brad Carter



Date: 2/15/2013

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Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
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|  Temporary Pole |  Stringing Site |
|  Proposed Guard Structure |  Staging Yard |
|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
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|  Steel Pole |
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Tie-Line 637 Wood-To-Steel Project

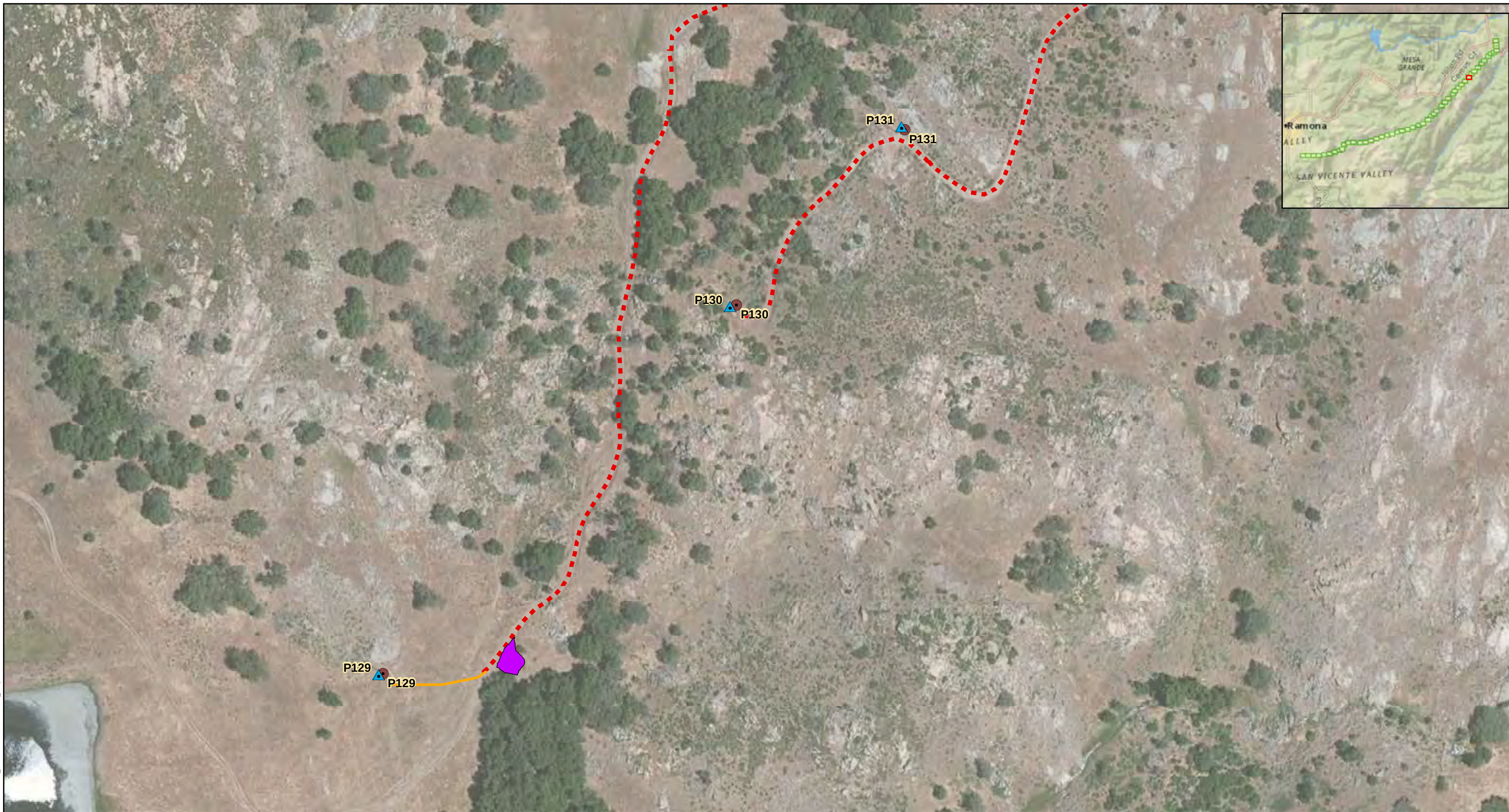
Detailed Route Map

Appendix 3-B

(Sheet 37 of 50)



G:\SDG&E_TL_637 PEAMXD\SDGE_Mapbook.mxd



Created For:

Brad Carter

Created By:



Date:

2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
-  Remove From Service
-  Top Above Communication
-  Wood Pole
-  Existing Access Road

- P = Power Line Poles
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- T = Temporary Poles
- R = Poles to be Removed
- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

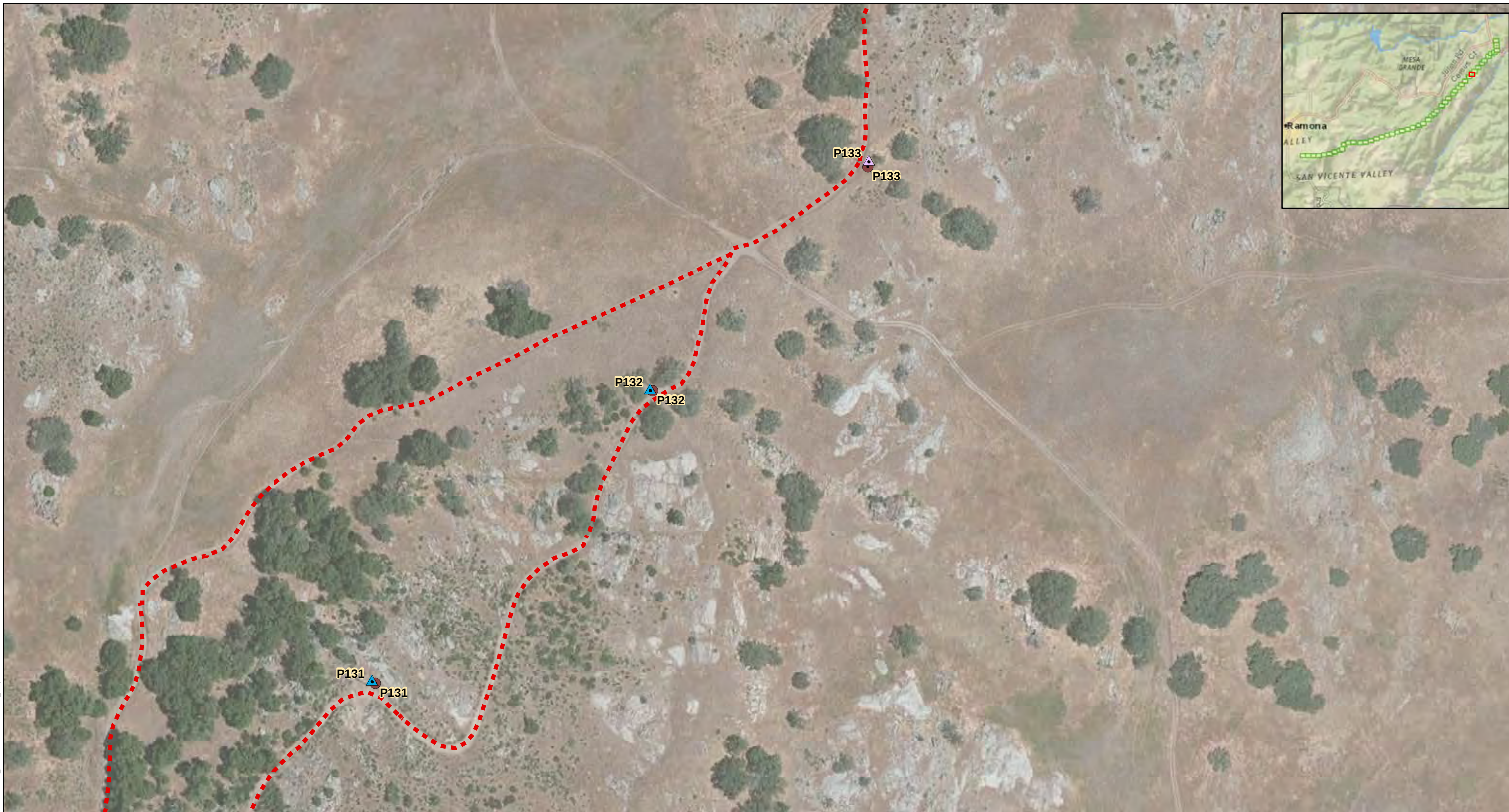
Detailed Route Map

Appendix 3-B

(Sheet 38 of 50)



G:\SDG&E_TL_637 PEAM\XDSG&E_Mapbook.mxd



Created For:
Brad Carter

Created By:



Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
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|  Proposed Anchor |  Helicopter Landing Zone |
|  Proposed Sled and Block |  Turn Around Area |

Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
|  Steel Pole |
|  Remove From Service |
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|  Wood Pole |
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T = Temporary Poles
R = Poles to be Removed
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GS = Guard Structures
SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

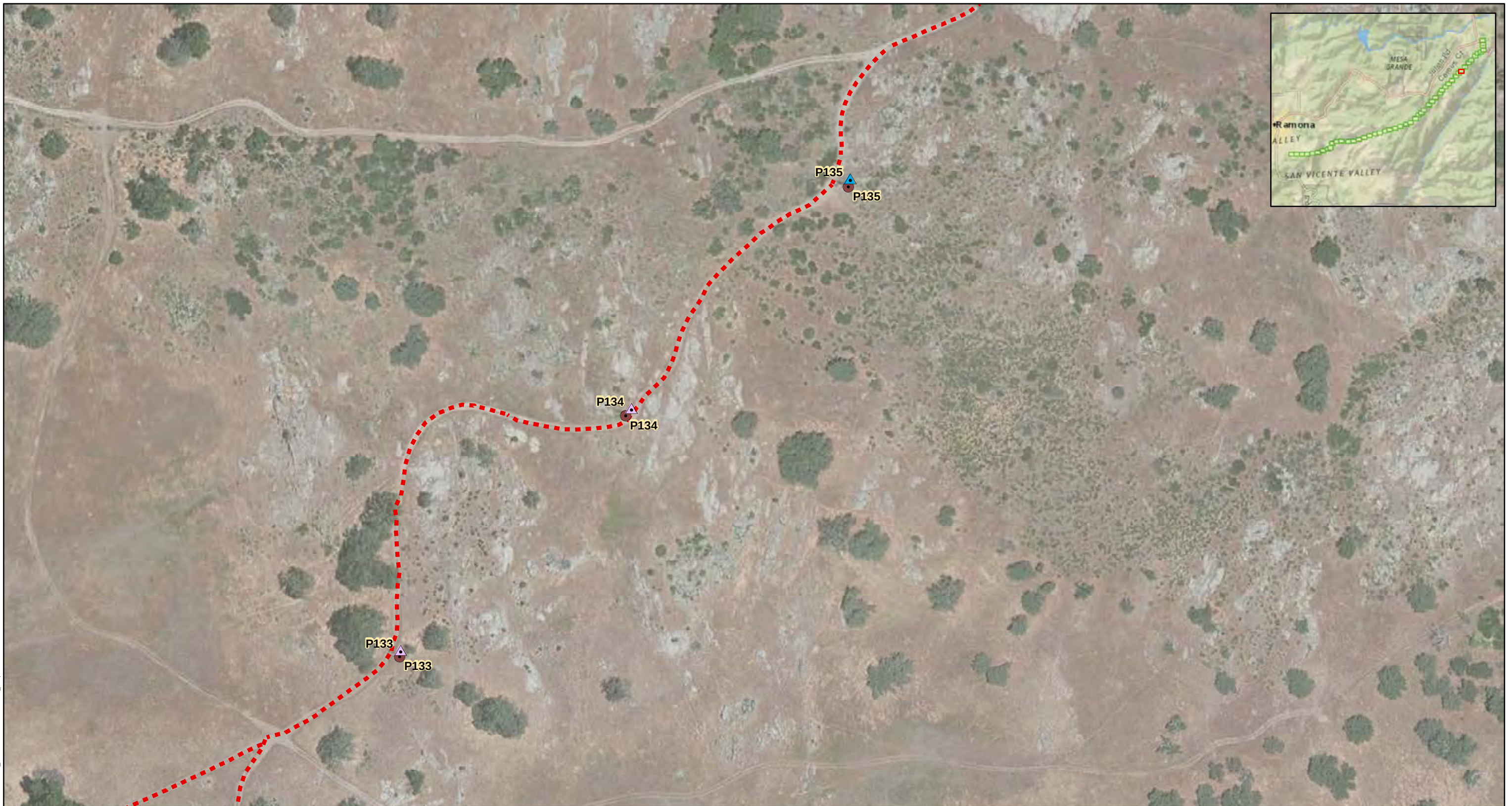
Detailed Route Map

Appendix 3-B

(Sheet 39 of 50)



G:\SDG&E_TL_637 PEAK\SDG&E_Mapbook.mxd



Created For:
Brad Carter

Created By:


Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
-  Proposed Footpath
-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

Existing (To Be Replaced)

-  Pole Top Work
-  Steel Pole
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- P = Power Line Poles
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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 40 of 50)



G:\SDG&E_TL_637 PEAMX\SDGE_Mapbook.mxd



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Brad Carter

Created By:


Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
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-  Staging Yard
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- A = Anchors
- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 41 of 50)



G:\SDG&E_TL_637 PEAMX\SDGE_Mapbook.mxd



Created For:
Brad Carter

Created By:



Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
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SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 42 of 50)



G:\SDG&E_TL_637 PEAMXD\SDGE_Mapbook.mxd



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Created By:



Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

- | | |
|---|--|
|  Micropile Foundation Pole |  Proposed Trench |
|  Direct Bury Pole |  Proposed Footpath |
|  Pole Top Work |  Proposed Overland Travel |
|  Temporary Pole |  Stringing Site |
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Existing (To Be Replaced)

- | |
|---|
|  Pole Top Work |
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Tie-Line 637 Wood-To-Steel Project

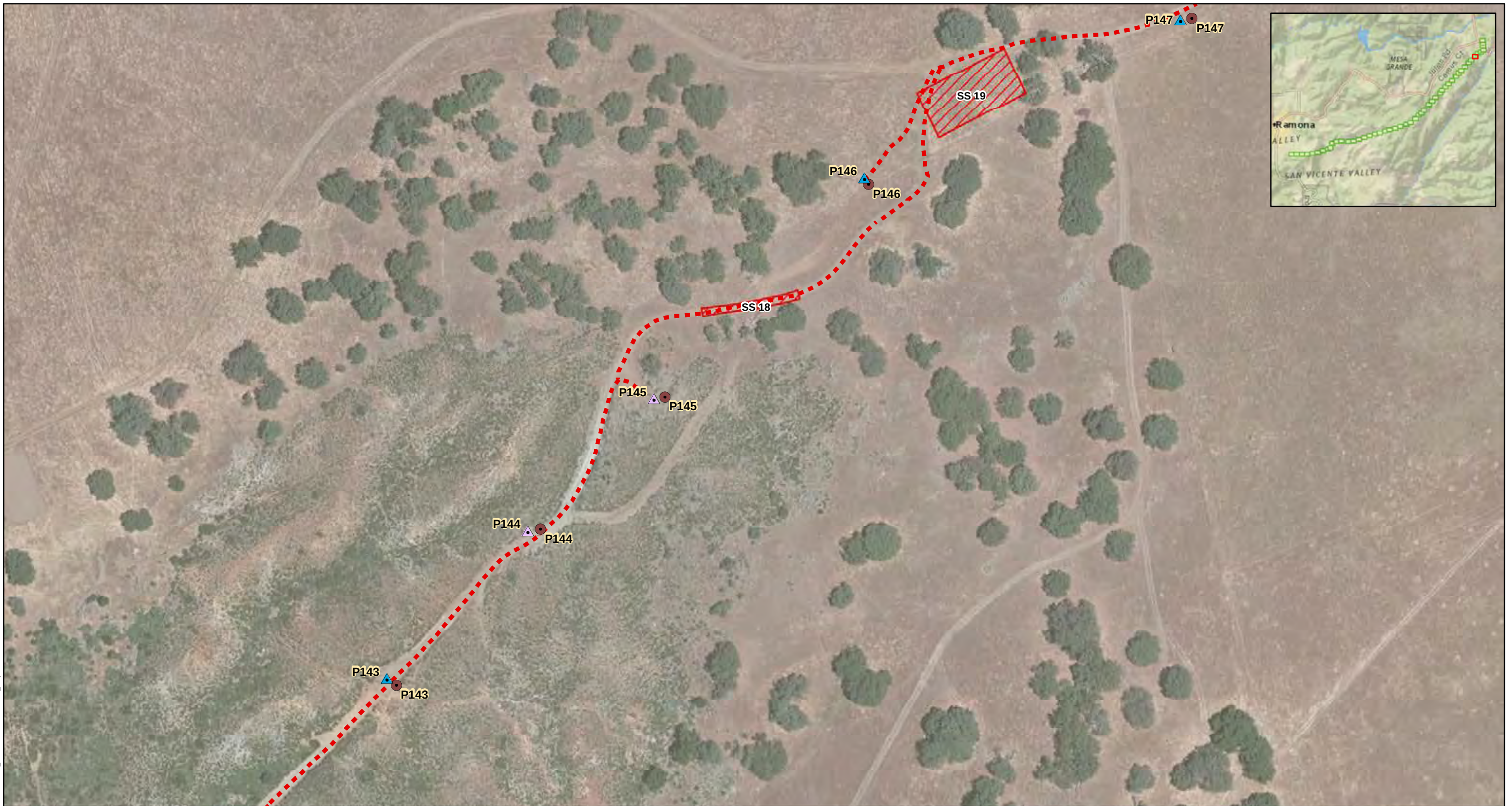
Detailed Route Map

Appendix 3-B

(Sheet 43 of 50)



G:\SDG&E_TL_637 PEAMX\SDG&E_Mapbook.mxd



Created For:
Brad Carter

Created By:


Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
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-  Proposed Anchor
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Tie-Line 637 Wood-To-Steel Project

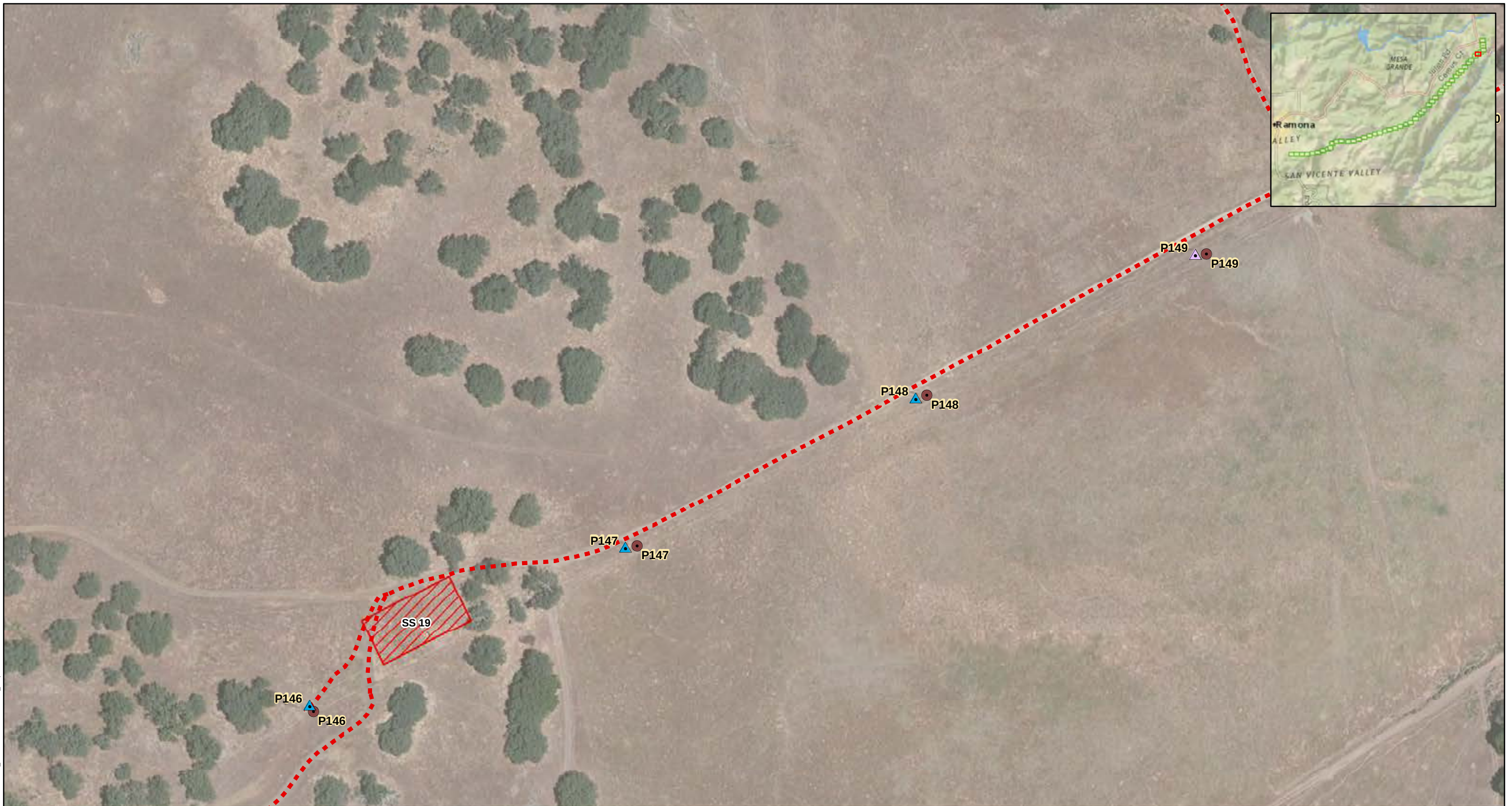
Detailed Route Map

Appendix 3-B

(Sheet 44 of 50)



G:\SDG&E_TL_637 PEAMXD\SDGE_Mapbook.mxd



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Brad Carter

Created By:


Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
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- GS = Guard Structures
- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

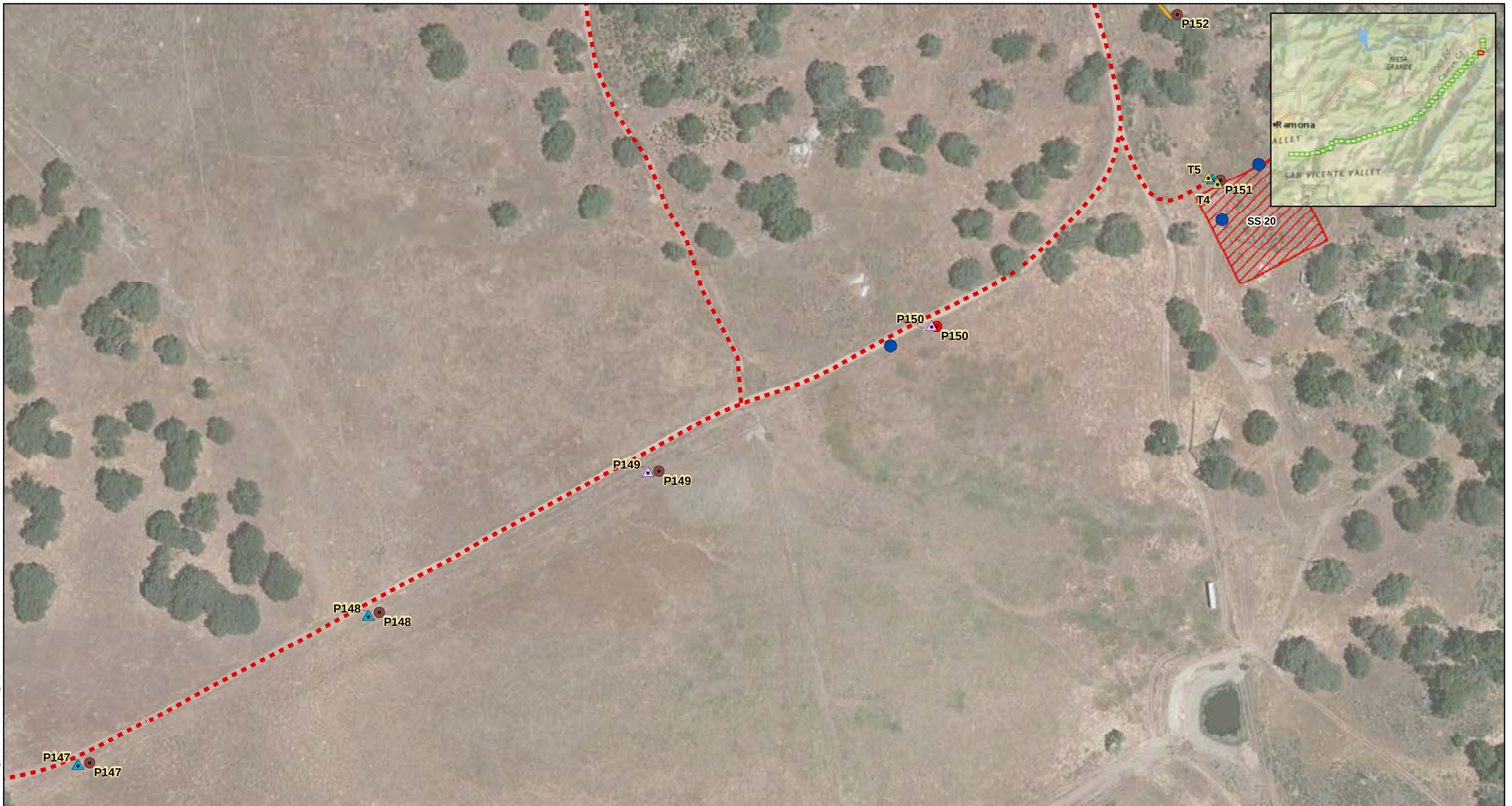
Detailed Route Map

Appendix 3-B

(Sheet 45 of 50)



G:\SDG&E_TL_637 PEAMX\SDGE_Mapbook.mxd



Created For:
Brad Carter

Created By:


Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
-  Temporary Pole
-  Proposed Guard Structure
-  Proposed Anchor
-  Proposed Sled and Block
-  Proposed Trench
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-  Proposed Overland Travel
-  Stringing Site
-  Staging Yard
-  Helicopter Landing Zone
-  Turn Around Area

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- SS = Stringing Sites

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 46 of 50)



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Created For:
Brad Carter

Created By:



Date: 2/15/2013

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Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

Proposed

-  Micropile Foundation Pole
-  Direct Bury Pole
-  Pole Top Work
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 47 of 50)



G:\SDG&E_TL_637 PEAMXD\SDGE_Mapbook.mxd



Proposed

- ▲ Micropile Foundation Pole
- ▲ Direct Bury Pole
- ▲ Pole Top Work
- ▲ Temporary Pole
- ★ Proposed Guard Structure
- Proposed Anchor
- Proposed Sled and Block
- === Proposed Trench
- Proposed Footpath
- Proposed Overland Travel
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 48 of 50)

Created For:
Brad Carter

Created By:
TRC

Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

Sources: SDG&E; ESRI 2012 (Bing Aerial Maps, Microsoft Corporation 2012)

0 120 240 360 Feet





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Created For:
Brad Carter

Created By:


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Proposed

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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 49 of 50)





G:\SDG&E_TL_637 PEAMX\SDG&E_Mapbook.mxd

Created For:
Brad Carter

Created By:



Date: 2/15/2013

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Proposed

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|---|--|
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Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

Appendix 3-B

(Sheet 50 of 50)





Tie-Line 637 Wood-To-Steel Project
Detailed Route Map
(Staging Yards and Helicopter Landing Zones)
(Sheet 1 of 5) **Appendix 3-B**

Created For:
Brad Carter

Created By:

TRC

Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

-  Stringing Site
-  Helicopter Landing Zone
-  Staging Yard



G:\SDG&E_TL 637 PE\A\X\SDGE StagingYards Mapbook.mxd

Created For:

Brad Carter

Created By:

TRC

Date:

2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

-  Stringing Site
-  Helicopter Landing Zone
-  Staging Yard

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

(Staging Yards and Helicopter Landing Zones)

(Sheet 2 of 5) **Appendix 3-B**

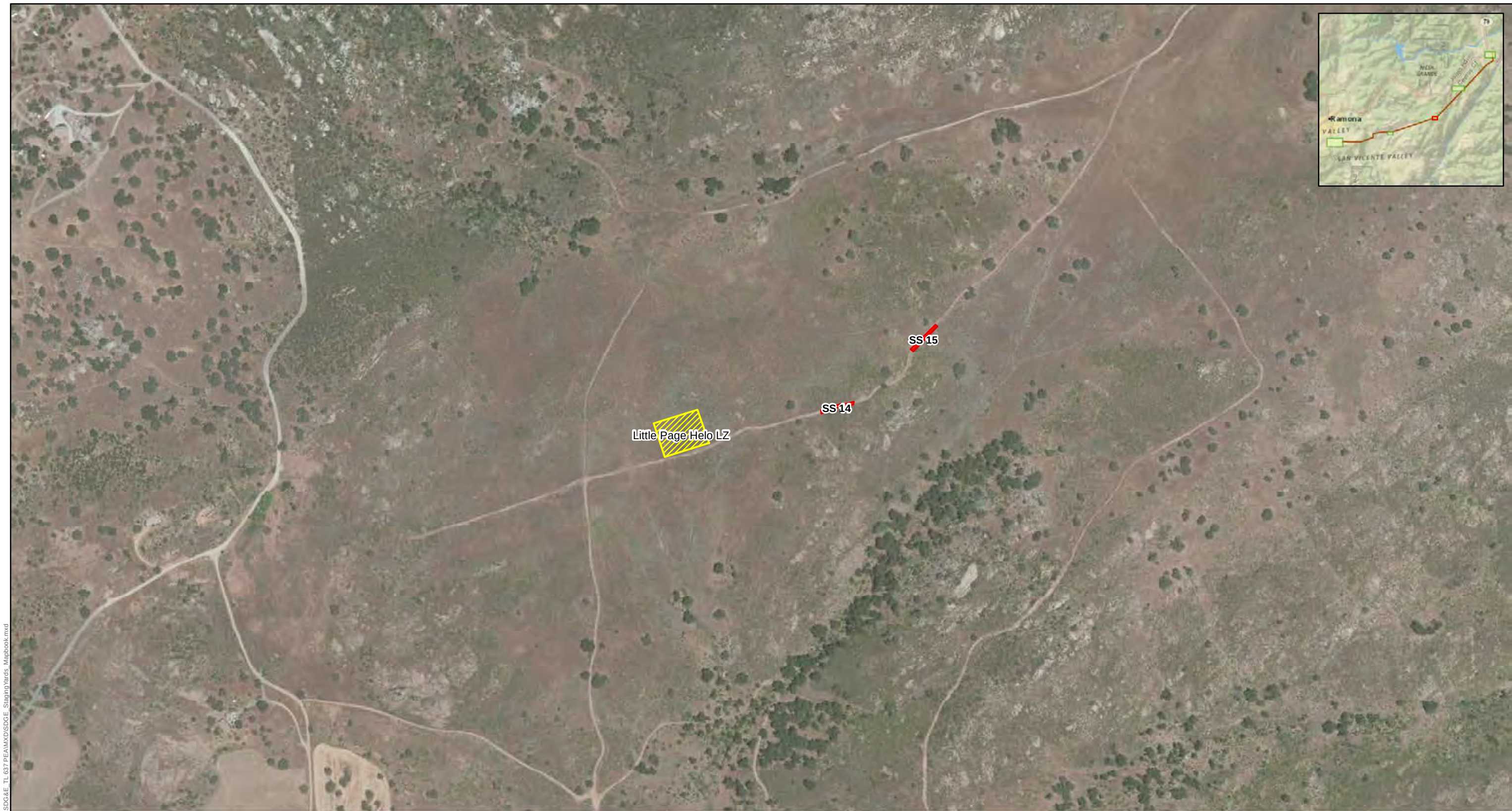
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Feet

Data Source: SDG&E; Basemap Source: Bing Aerial Maps, Microsoft Corporation 2010







G:\SDG&E_TL 637 PE\A\X\SDG&E Staging Yards Mapbook.mxd

Created For:

Brad Carter

Created By:



Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

-  Stringing Site
-  Helicopter Landing Zone
-  Staging Yard

Tie-Line 637 Wood-To-Steel Project
Detailed Route Map
(Staging Yards and Helicopter Landing Zones)
(Sheet 3 of 5)

Appendix 3-B

04008001,200

Feet

Data Source: SDG&E; Basemap Source: Bing Aerial Maps, Microsoft Corporation 2010







G:\SDG&E_TL 637 PE\A\X\SDG&E Staging Yards Mapbook.mxd

Created For:

Brad Carter

Created By:

TRC

Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

-  Stringing Site
-  Helicopter Landing Zone
-  Staging Yard

Tie-Line 637 Wood-To-Steel Project

Detailed Route Map

(Staging Yards and Helicopter Landing Zones)

(Sheet 4 of 5) **Appendix 3-B**



G:\SDG&E_TL 637\PE\A\X\SDGE_StagingYards_Mapbook.mxd

Created For:
Brad Carter

Created By:


Date: 2/15/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

-  Stringing Site
-  Helicopter Landing Zone
-  Staging Yard

Tie-Line 637 Wood-To-Steel Project

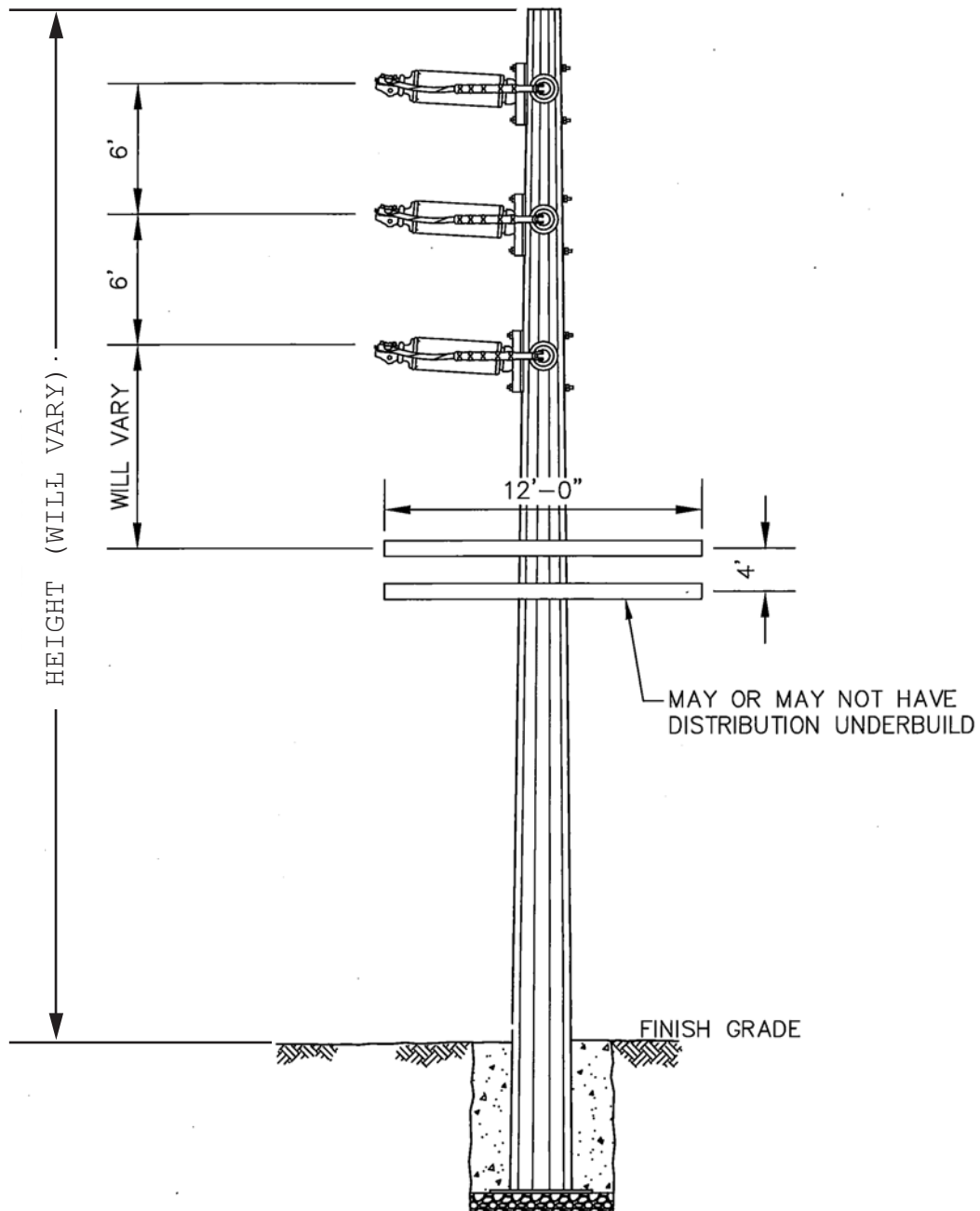
Detailed Route Map

(Staging Yards and Helicopter Landing Zones)

(Sheet 5 of 5) **Appendix 3-B**

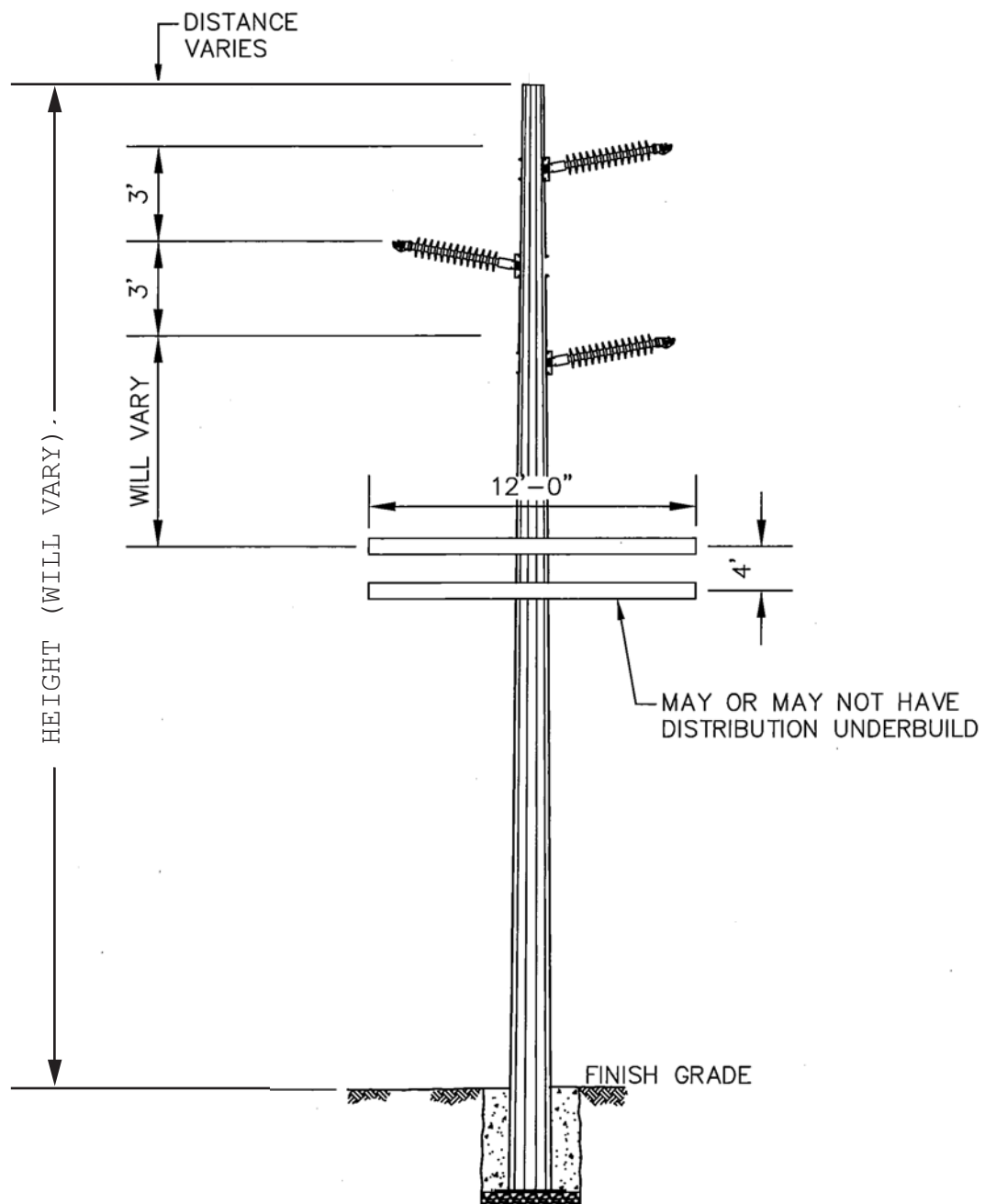
APPENDIX 3-C

TYPICAL STRUCTURE DIAGRAMS AND PHOTOGRAPHS



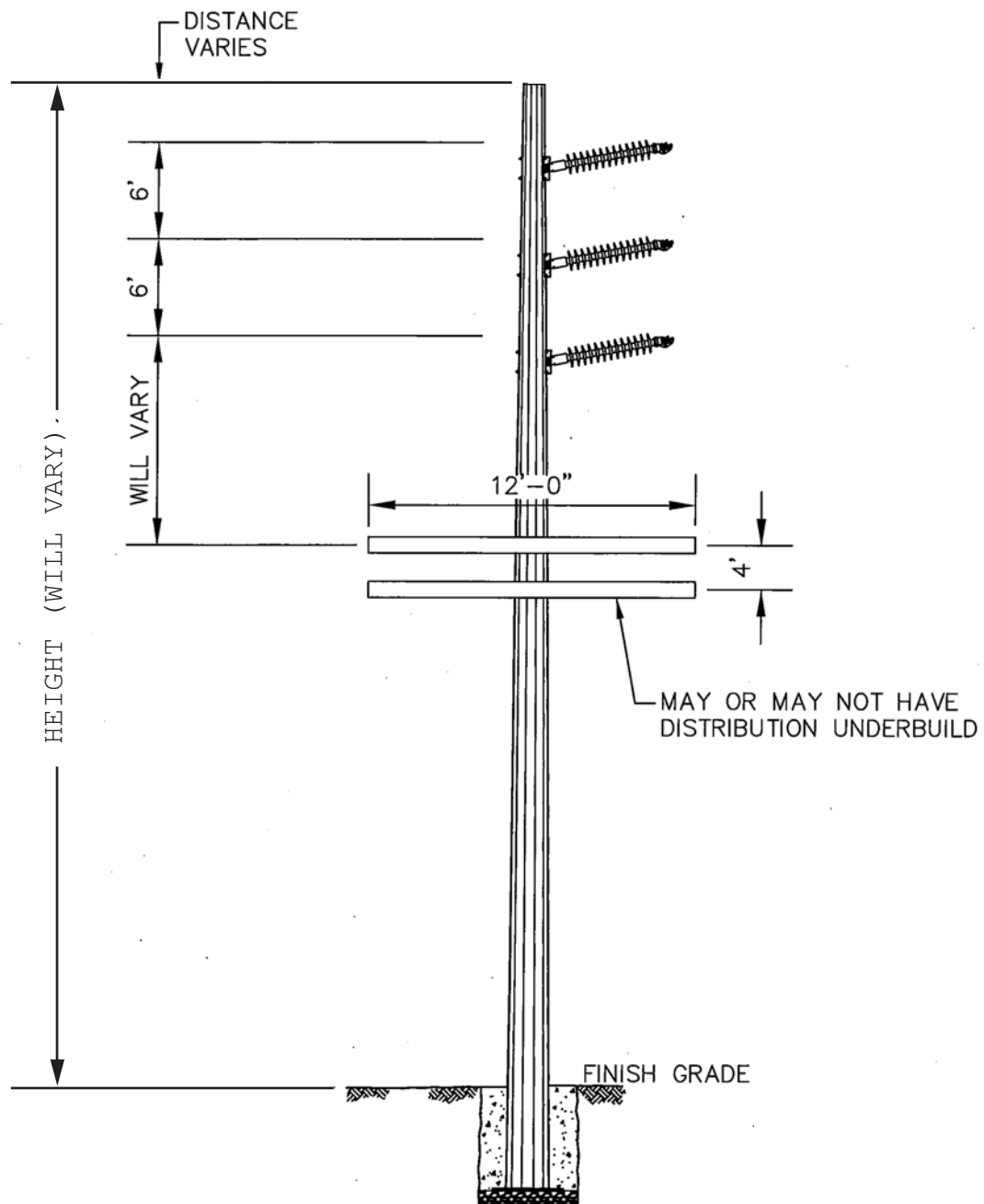
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- Distribution cross arm length and spacing may vary.



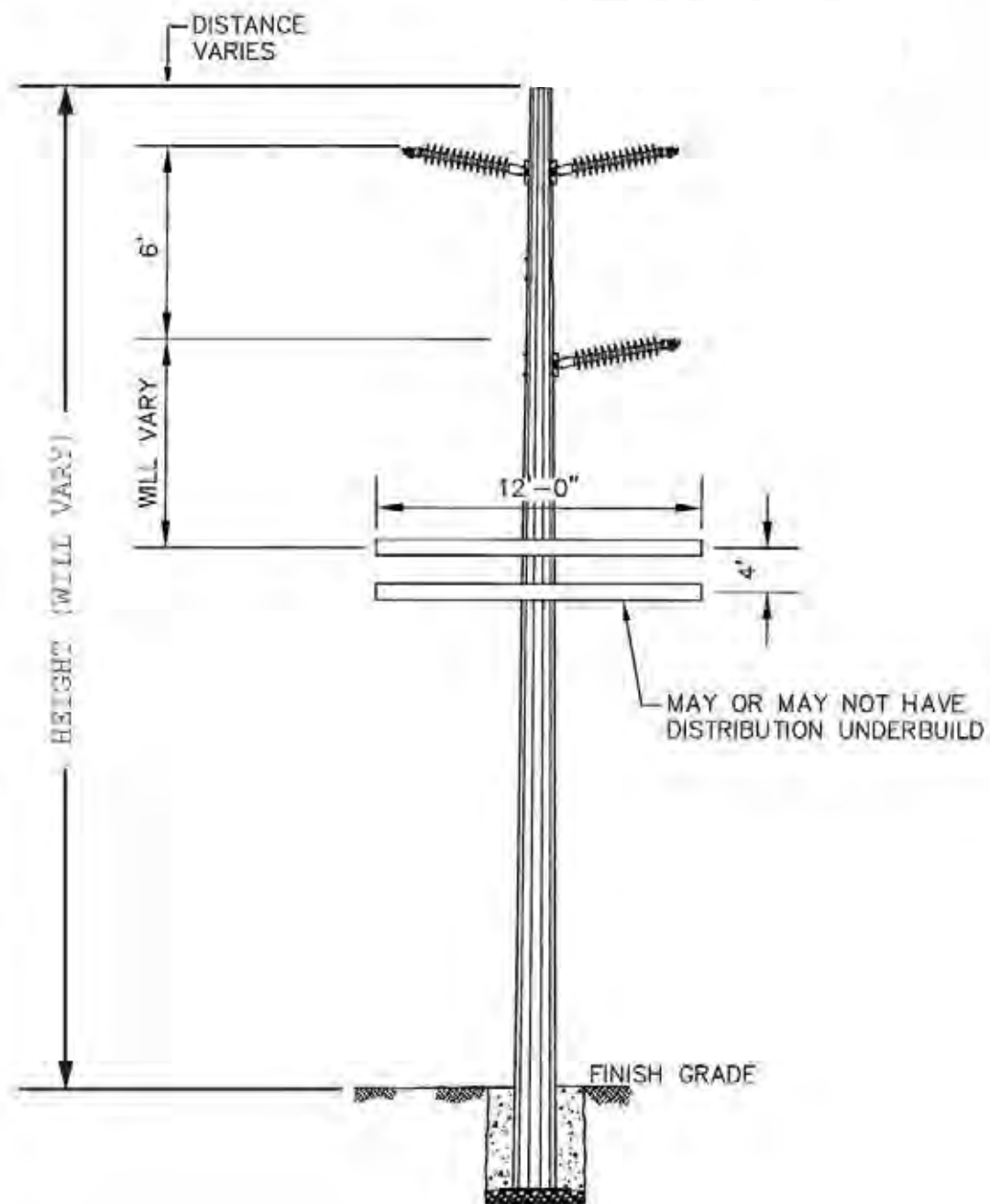
Notes:

- Distribution cross arm length and spacing may vary.



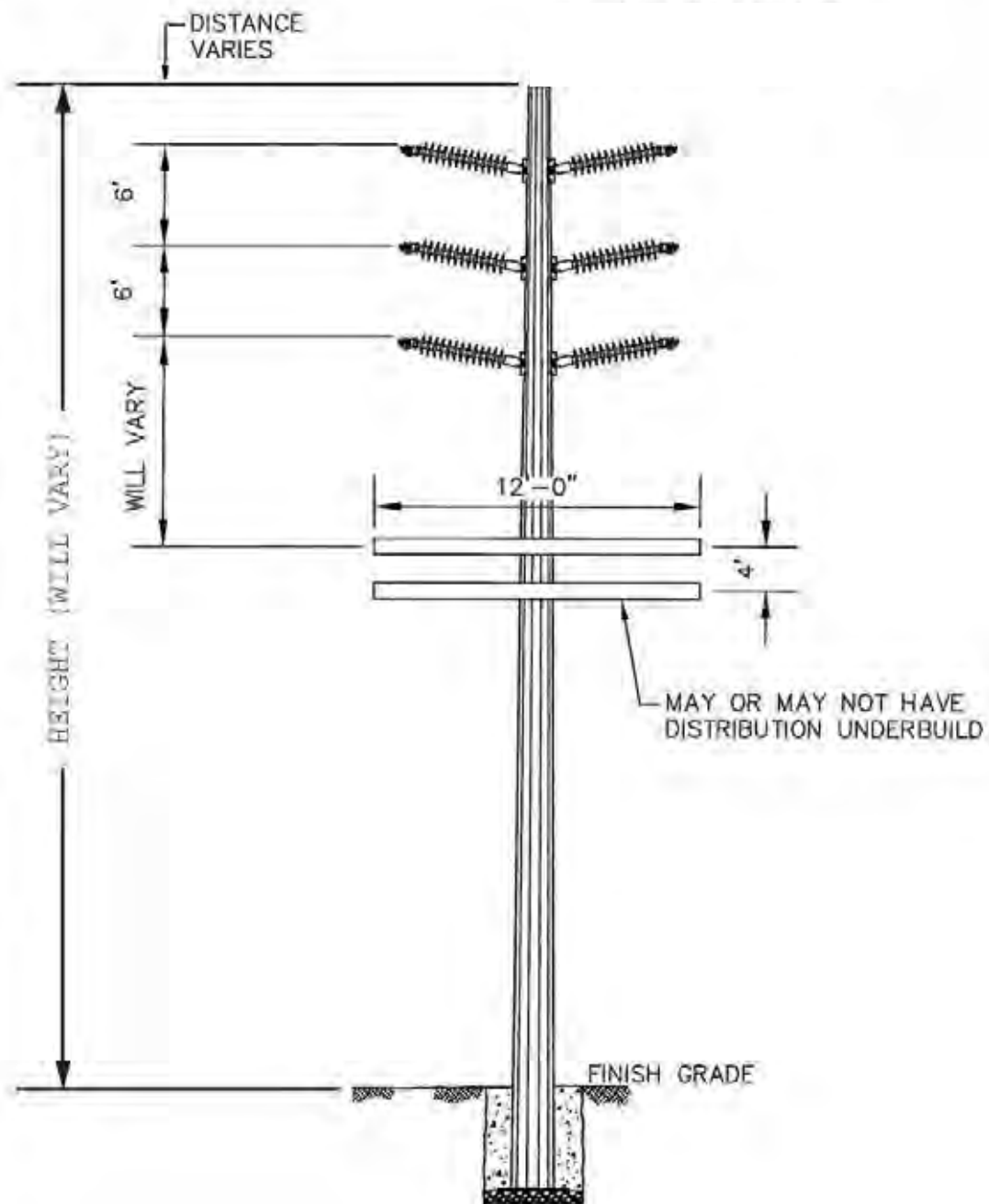
Notes:

- Distribution cross arm length and spacing may vary.



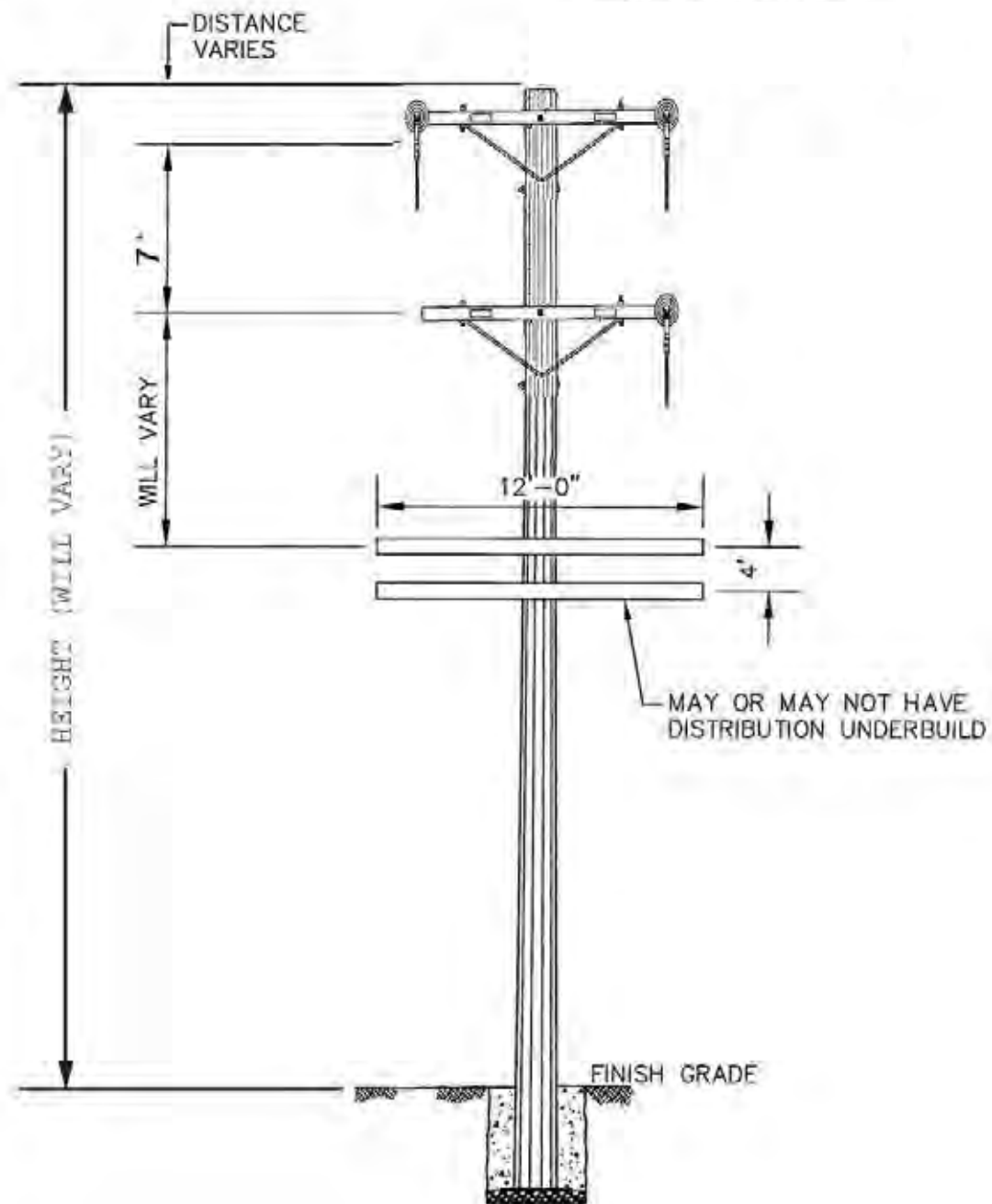
Notes:

- Distribution cross arm length and spacing may vary.



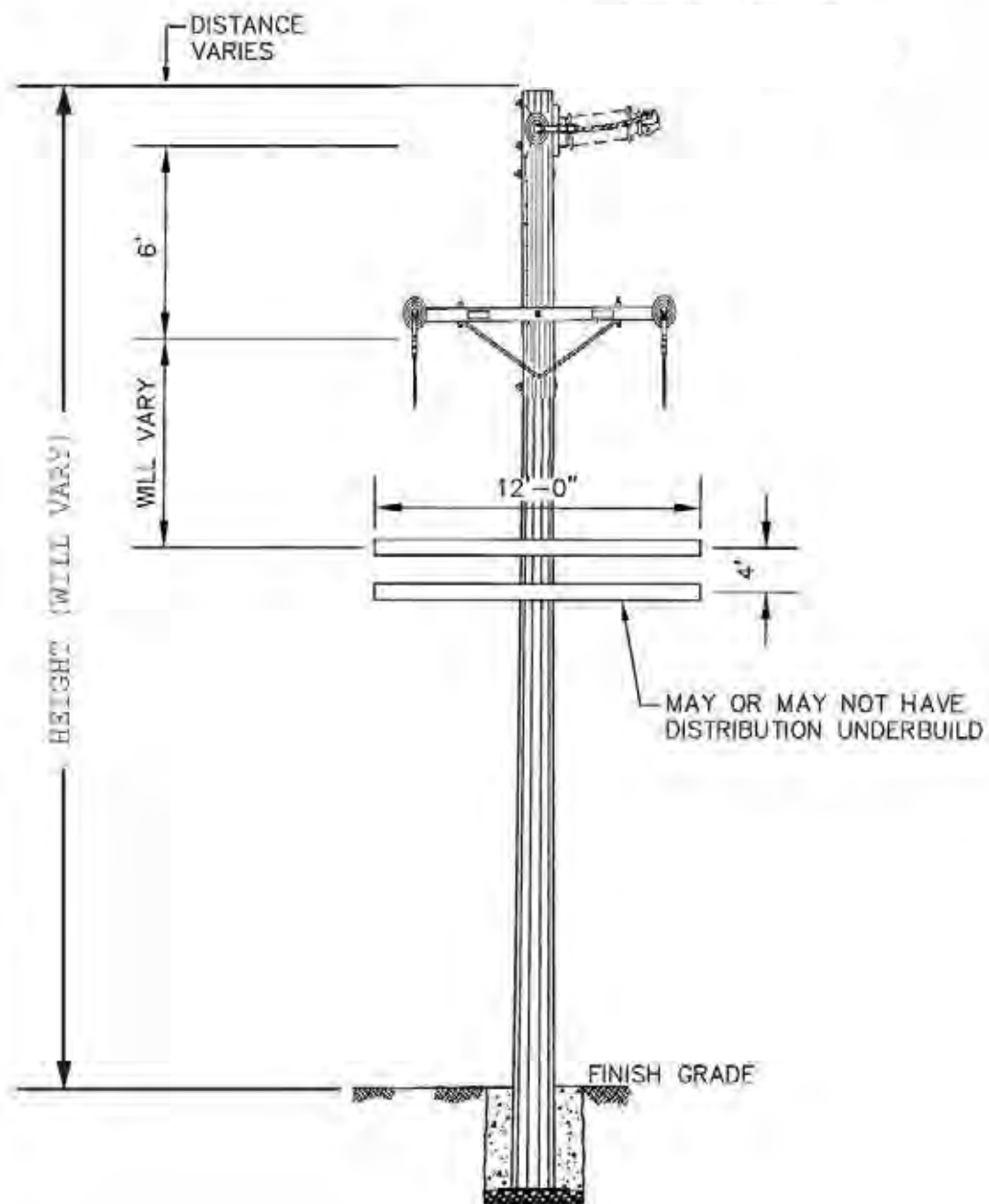
Notes:

- Distribution cross arm length and spacing may vary.



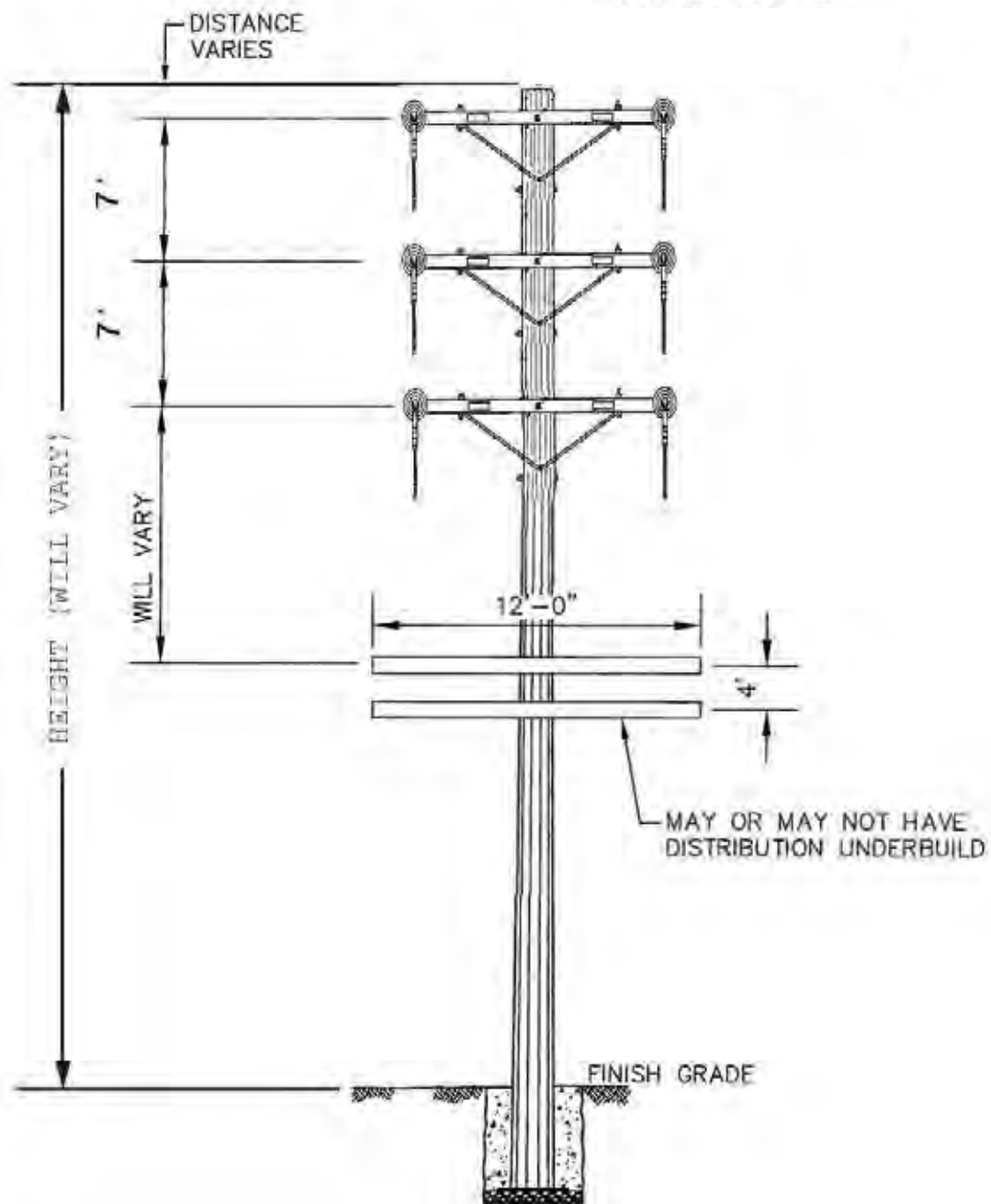
Notes:

- Distribution cross arm length and spacing may vary.



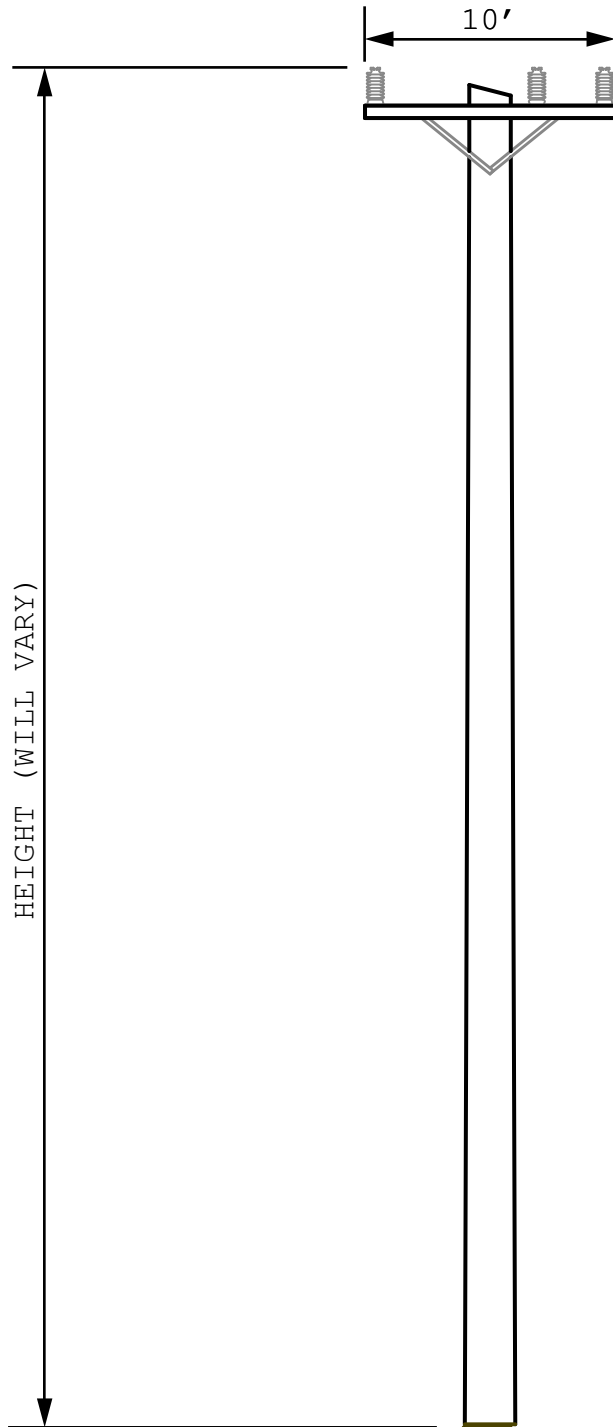
Notes:

- Distribution cross arm length and spacing may vary.

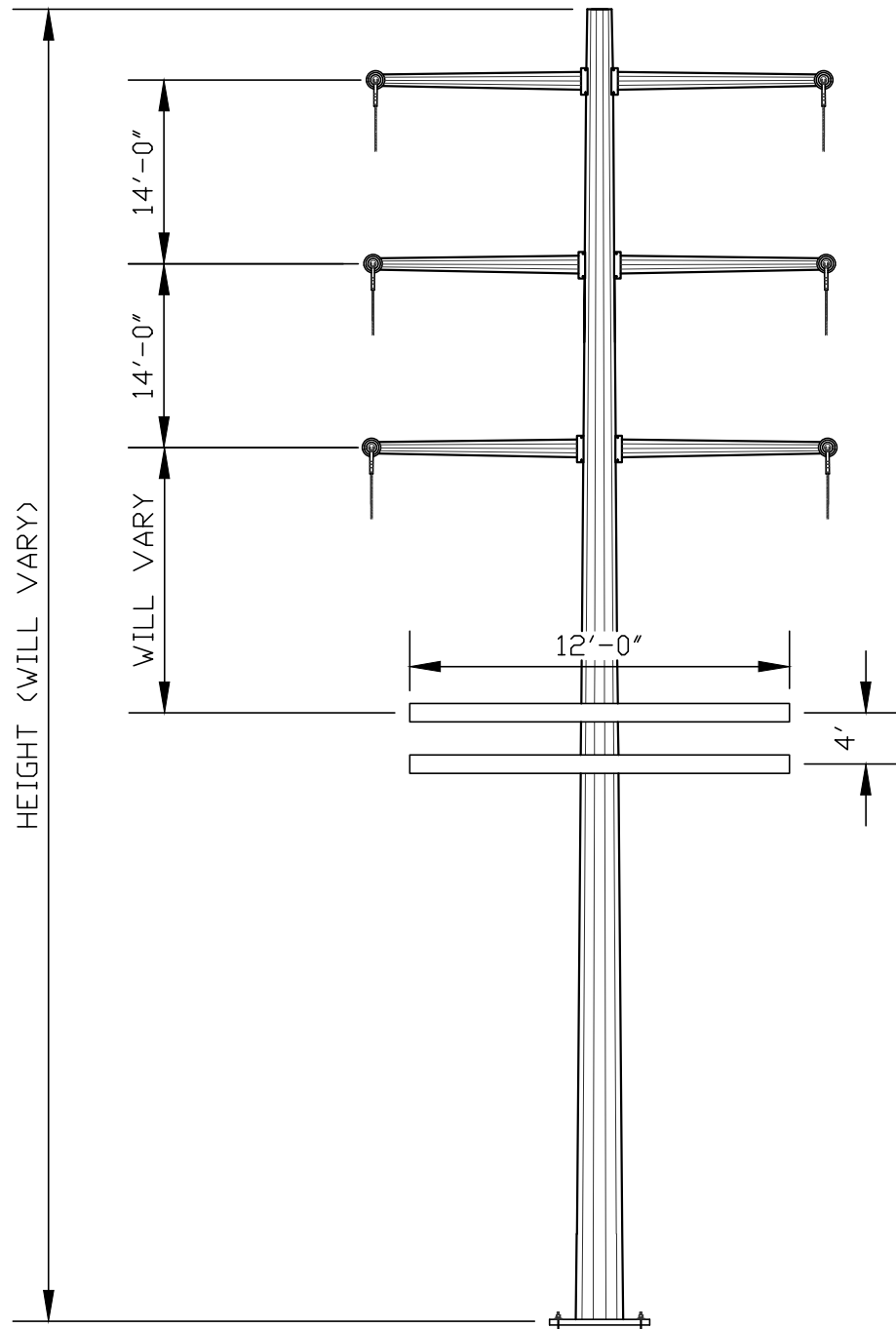


Notes:

- Distribution cross arm length and spacing may vary.

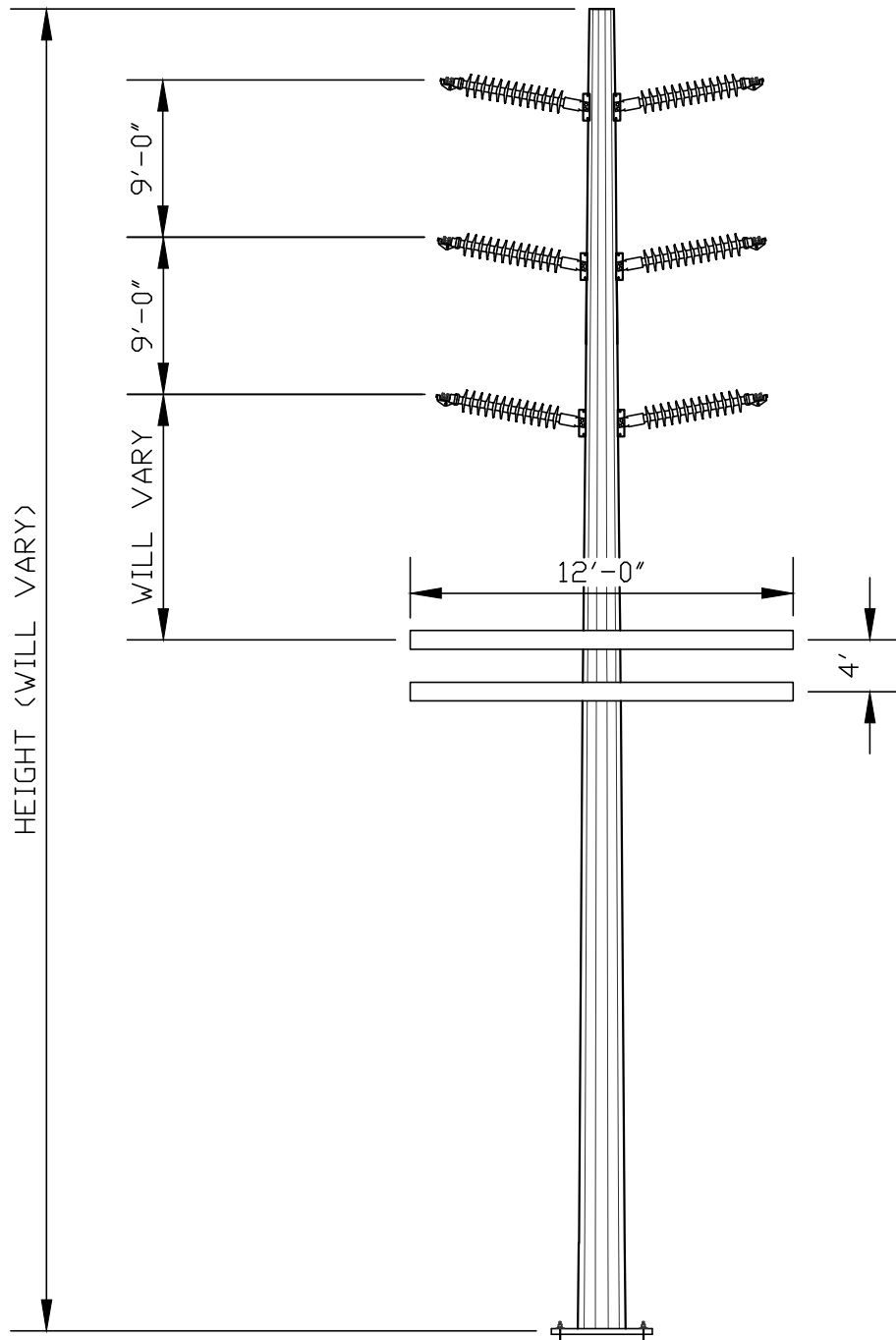


Typical Existing Wood Distribution Pole



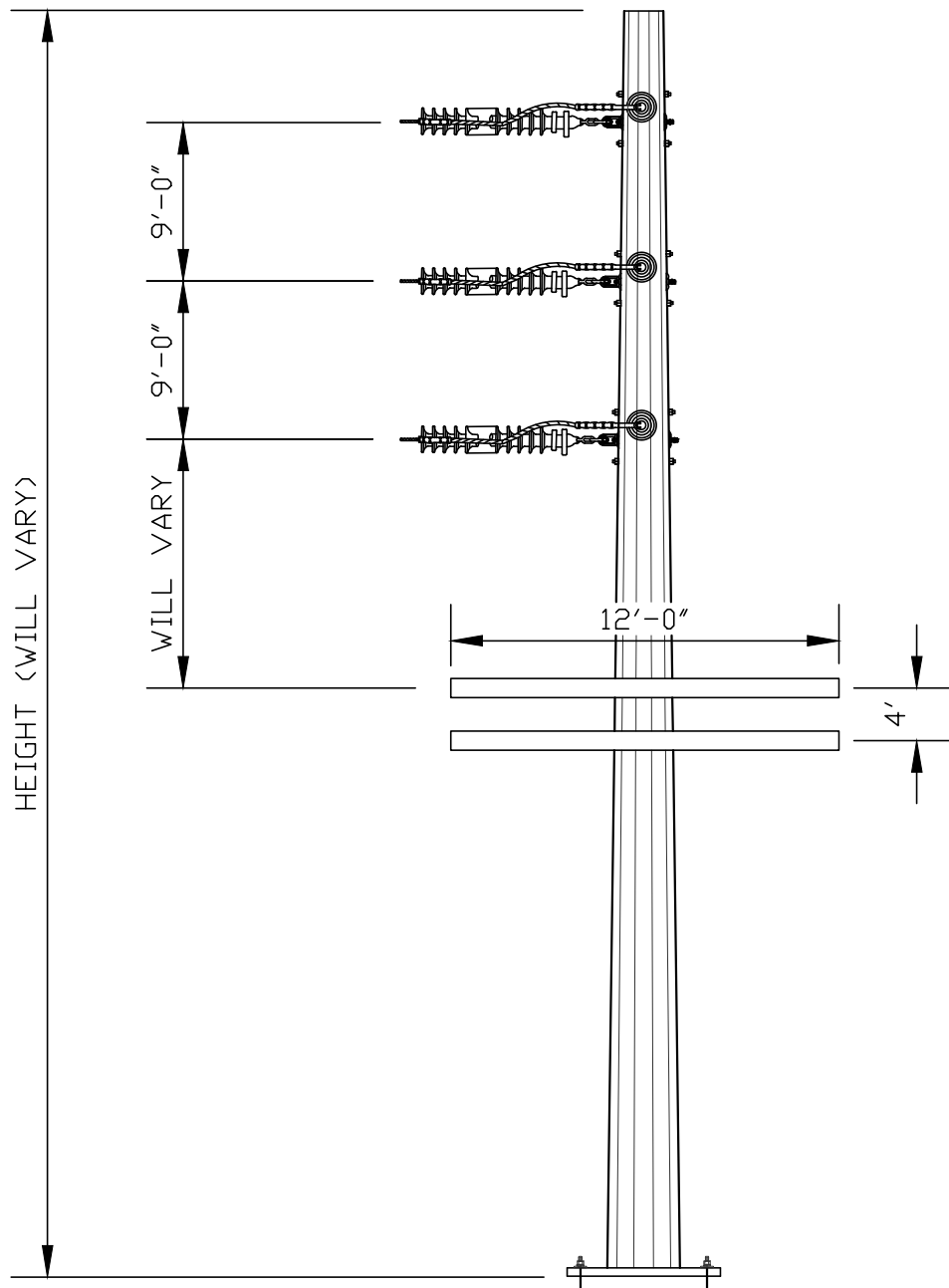
Notes:

- Actual pole foundations will either be direct embed or micropile.
- The number of levels of distribution underbuild will vary.
- Distribution cross arm length and spacing may vary.



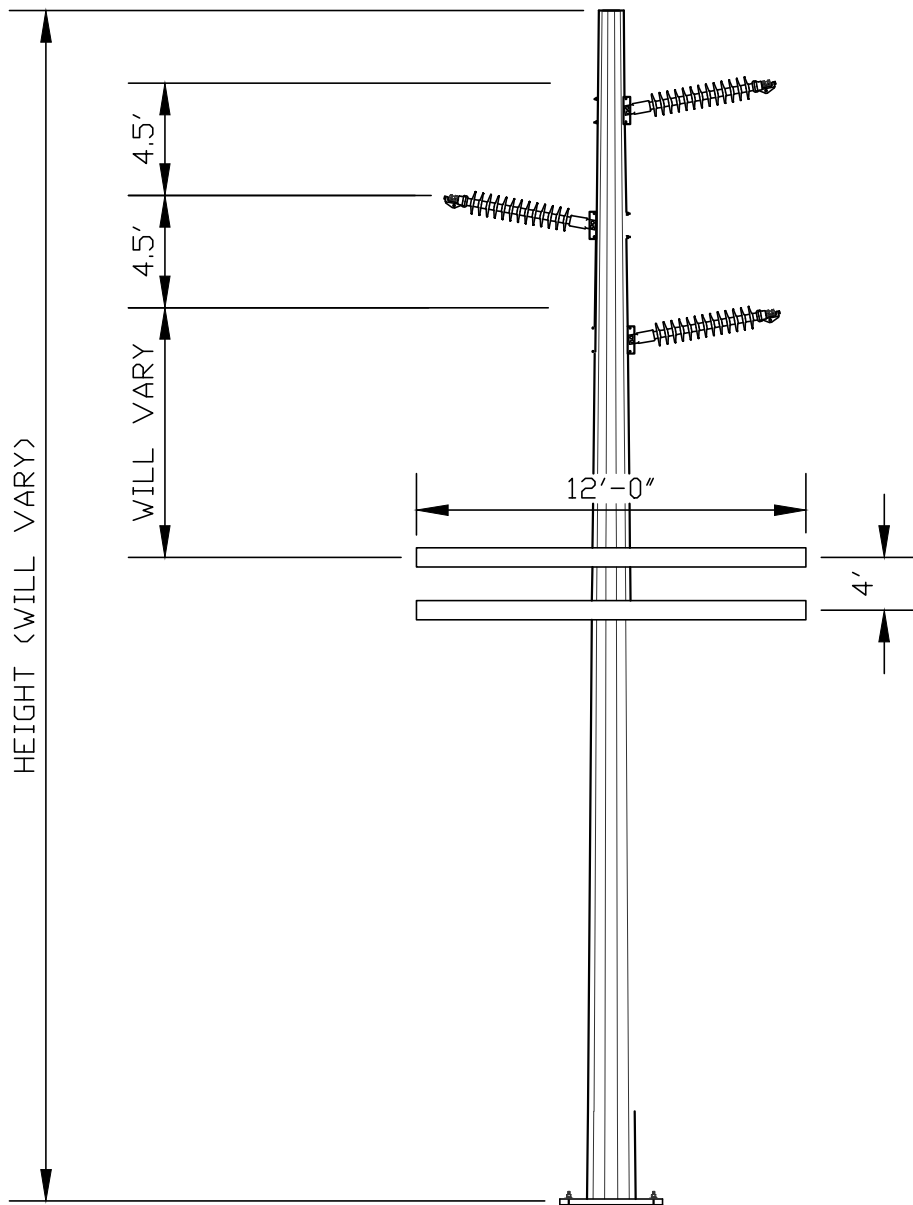
Notes:

- Actual pole foundations will either be direct embed or micropile.
- The number of levels of distribution underbuild will vary.
- Distribution cross arm length and spacing may vary.



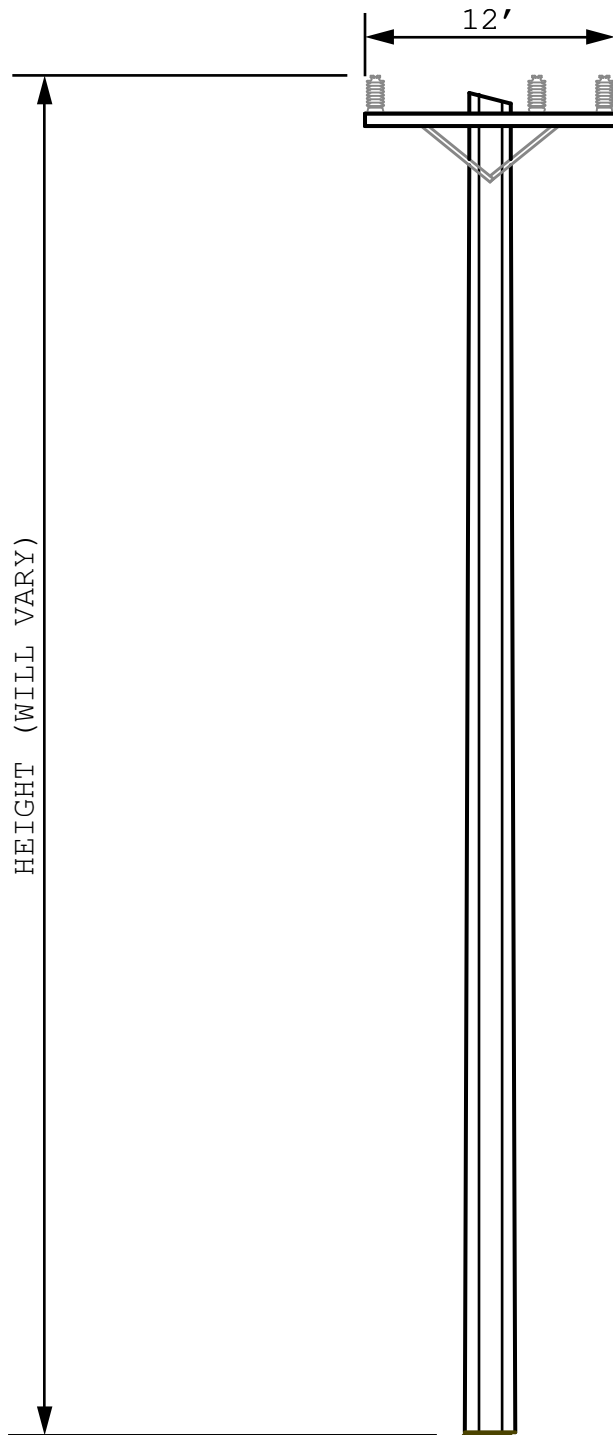
Notes:

- Actual pole foundations will either be direct embed or micropile.
- The number of levels of distribution underbuild will vary.
- Distribution cross arm length and spacing may vary.



Notes:

- Actual pole foundations will either be direct embed or micropile.
- The number of levels of distribution underbuild will vary.
- Distribution cross arm length and spacing may vary.



Notes:

- Actual pole foundations will either be direct embed or micropile.



Typical wood transmission pole (with distribution underbuild)



Typical wood guard structure at a road crossing

Backfill

1'-6"

4" - 5"

1'-6"

As Required Per Specifications
and Profile Drawing



A Sempra Energy utility™

Proposed Underground 12 kV Duct Bank
Typical Drawing

APPENDIX 3-D

DETAILED MAGNETIC FIELD MANAGEMENT PLAN



Detailed Magnetic Field Management Plan
for the
TL 637 Wood-to-Steel
Project

Project Engineer: **V. Huynh**
Project Designer: **R. Ross**

Work Order No.: **WO 2901640**
In-Service Date: **Sept. 2014**

Power & Distribution Lines: **TL 637, TL 626B, 236. 237, 970, 975**

Central File No.: **ELA 140.B.XX**

Prepared by: J. Bennett

Date: 02/27/2013

Table of Contents

I. PROPOSED PROJECT SCOPE	2
II. MAGNETIC FIELD MANAGEMENT DESIGN GUIDELINES	3
III. METHODOLOGY	3
IV. PROJECT DESCRIPTION	4
V. FIELD MANAGEMENT MEASURES CONSIDERED	7
TABLE 1: MAGNETIC FIELD REDUCTION MEASURES ADOPTED OR REJECTED.....	7
VI. MAGNETIC FIELD REDUCTION MEASURES EVALUATED FOR THE PROJECT	9
VII. MAGNETIC FIELD REDUCTION MEASURES RECOMMENDED FOR THE PROJECT	111
A. “No-Cost” Field Management Technique:	111
B. “Low-Cost” Field Management Technique:	111

I. Proposed Project Scope

The “TL 637 Wood-to-Steel Pole Replacement Project” (Proposed Project) is for TL 637¹ between Creelman and Santa Ysabel Substations and includes pole replacement and re-conductor of this tieline. It is to replace approximately one hundred fifty-six (156) wood poles with equivalent weathering steel structures for a distance of approximately 14.0 miles and will follow the current alignment centered on the existing rights-of-way (ROW) the full length. The reconductor will change out existing 3/0 ACSR/AW with heavier 636-ACSS/AW circuit wire. The steel poles will range in height from approximately 43 to 110 feet and will be located as close as possible to the existing pole locations.

The Proposed Project begins in San Diego County at Creelman Substation located south of Creelman lane and east of San Vicente road in Ramona, California. The line heads north east, staying on the south side of State Highway 78 and ends at Santa Ysabel Substation just west of Columbia Street in Santa Ysabel, California (Please see “Appendix 1 – Proposed Project Segment Map”). TL 637 traverses on private and public lands, including lands owned by the County of San Diego, Bureau of Land Management (BLM), and Cleveland National Forest (CNF). This region of San Diego County (County) is sparsely populated with small, scattered, unincorporated communities. Completion of the Proposed Project will help increase safety and reliability measures for both existing and future electric infrastructure that serves the Ramona to Santa Ysabel area.

The scope of replacing the 156 wood structures will include, approximately 69 directly-embedded and approximately 87 micropile foundations. They will have like pole top configurations compared to the existing wood poles. The new steel poles are approximately 12 feet taller on average, stronger, and with expanded circuit separation placing the three phase circuit wires farther apart from each other. The 636 ACSS/AW circuits themselves are thicker, heavier wire. As a result, they are less likely to be affected by high winds and chance of blow-out will be reduced. This is also referred to as “fire-hardening” for areas which are considered high-risk fire areas, such as major portions of the Proposed Project scope.

There is a small portion of this line coming into Santa Ysabel substation where facilities must support both TL 637 and TL 626B. This line segment is approximately 3,500 feet in length with approximately 12 structures which will be replaced with double circuit steel structures to support the two 69 kV tielines, one 12 kV distribution circuit, and two communications circuits per structure.

The Proposed Project will be constructed within existing easements or ROWs throughout the entire scope. The scope of magnetic field analysis for this “Detailed Magnetic Field

¹ In accordance with CPUC General Order 131-D, the term “power line” is used in this document in reference to TL 637, a 69 kV line. The term “transmission,” when used, refers to internal SDG&E operating departments, internal SDG&E standards and/or other guidelines, and is not intended to suggest that TL 637 is designed for immediate or eventual operation at 200 kV or above.

Management Plan (FMP)” does not include the distribution lines, per the “SDG&E EMF² Design Guidelines for Electrical Facilities” which states, “For distribution facilities, utilities would apply no-cost and low-cost measures by integrating reduction measures into construction and design standards, rather than evaluating no-cost and low-cost measures for each project.” Thus, for purposes of this FMP, the term “Proposed Project” only includes the wood-to-steel conversion and re-conductor of electric power line TL 637 and a portion of TL 626B near Santa Ysabel Substation where new double circuit steel poles will be installed. Minor work will be done at Creelman and Santa Ysabel Substations to provide for connection of the re-conducted TL 637 and TL 626B circuit wire and underbuilt distribution line.

II. Magnetic Field Management Design Guidelines

The CPUC requires SDG&E apply its *EMF Design Guidelines for Electrical Facilities* (“Guidelines”) to all new electric transmission projects to reduce public exposure to magnetic fields. SDG&E filed its Guidelines with the CPUC in accordance with CPUC Decision 93-11-013 and updated them in accordance with the 2006 CPUC Decision 06-01-042.

Consistent with SDG&E’s Guidelines and with the CPUC order, magnetic fields and possible magnetic field management measures were evaluated along the power line locations associated with the Proposed Project. The results of this evaluation are contained in this FMP.

The FMP deals solely with magnetic fields. Moreover, reducing the magnetic field strength is but one of many factors to be considered in planning and designing a transmission system, along with other issues such as safety, environmental concerns, reliability, insulation and electrical clearance requirements, aesthetics, cost, operations and maintenance.

III. Methodology

In Decision 06-01-042, the CPUC notes that modeling is used to compare the relative effectiveness of field-reduction options and is not to be used to predict post-construction field levels. CPUC Decision 06-01-042, Finding of Fact 14: “Utility modeling methodology is intended to compare differences between alternative EMF [Electromagnetic Field] mitigation measures and not determine actual EMF amounts.”³ The CPUC also notes that “modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields.”⁴

In accordance with its Guidelines, SDG&E will take the following measures for the Proposed Project:

- Apply SDG&E’s EMF Guidelines for transmission circuit facilities to the Proposed Project design.
- Identify and implement appropriate “no-cost” measures, i.e., those that will not increase overall project costs but will reduce the magnetic field levels.

² EMF refers to electric and magnetic fields.

³ CPUC Decision D.06-01-042, Finding of Fact 14, p. 20.

⁴ Ibid, p.11.

- Identify and implement appropriate “low-cost” measures, i.e., those measures costing in the range of 4% of the total budgeted project cost that will reduce the magnetic field levels by 15% or more at the edge of the right-of-way (ROW).
- When a sufficiency of “low-cost” measures is available to reduce magnetic field levels, such that it is difficult to stay within the 4% cost guideline, apply these “low-cost” measures by priority, per the Guidelines.

The 15% minimum reduction required for low-cost measures is in addition to any field reduction due to “no-cost” measures. It is not cumulative.

Since the Proposed Project requires permitting under General Order 131-D, a Detailed Field Management Plan (FMP) will be used. The FMP consists of a project description, a checklist table showing evaluation of magnetic field reduction measures adopted or rejected per transmission line, evaluation of “no-cost” and “low-cost” magnetic field reduction techniques, magnetic field models where multiple lines are involved within the same easement or ROW, and a summary with recommendations.

Field levels were calculated using the RESICALC program developed and maintained by the Electric Power Research Institute. As the in-service date of the Proposed Project will be September 2014 the projected high usage currents, “2014 heavy summer,” were used in the calculations. For the purpose of evaluating the field management measures, magnetic field levels were calculated and compared at a height of one meter above ground.

To evaluate the effectiveness of various magnetic field reduction measures, calculated values for a given technique were compared to calculated values without the technique. Since all power lines of the Proposed Project are within easements, or franchise ROW, magnetic field levels were calculated and compared at the adjacent parallel property lines, or edges of ROW.

IV. Project Description

The “TL 637 Wood-to-Steel Project” (Proposed Project) begins in San Diego County at the Creelman Substation located south of Creelman lane and east of San Vicente road in Ramona, California. The line heads north east, staying on the south side of Highway 78. This power line ends in San Diego County at the Santa Ysabel Substation, just west of Columbia Street, in Santa Ysabel (see “Appendix 1 – Proposed Project Segment Map”). This region of San Diego County (County) is sparsely populated with small, scattered, unincorporated communities.

The scope of the Proposed Project includes replacing existing wood poles with weathering steel poles with like pole top configurations along the entire route, and re-conductor of the 69 kV power line, TL 637. The new steel poles are approximately 12 feet taller on average, stronger, and with expanded circuit separation placing the three phase circuit wires farther apart from each other. The circuits themselves also are thicker, heavier wire. As a result, they are less likely to be affected by high winds and chance of blow-out will be reduced. This is also referred to as “fire hardening” for areas which are consider high-risk fire areas, such as major portions of this Proposed Project scope.

To further define the Proposed Project land use areas, it is located within eastern San Diego County on county park land (Simon Preserve), BLM land (Mt. Gower Preserve), U.S. Forest Service property (CNF), SDG&E-owned lands, and private property. The Proposed Project involves the entire, approximately 14.0 miles, expanse of TL 637. For purposes of this FMP, the Proposed Project alignment is divided up into five (5) separate Segments of land use from the western to the eastern ends of the line:

- **Segment 1-** (0.93 miles) is located in the unincorporated community of Ramona within a semi-rural residential area with agricultural uses such as crop cultivation and pasture for cattle and horses. This segment of the project alignment is within franchise of Creelman Lane and is bordered by rural residential and undeveloped land use, and ends at the western boundary of Simon Preserve, a County open-space park
- **Segment 2-** (1.3 miles) is located in the Simon Preserve. Uses of the preserve include hiking, equestrian riding, and mountain biking. This segment of the Proposed Project alignment is surrounded by the Preserve as it crosses the southern portion of the Preserve in a west/east alignment and ends at its eastern boundary.
- **Segment 3-** (1.9 miles) is located in the San Diego Country Estates subdivision consisting of tract residential development. This segment of the Proposed Project alignment traverses between private lots, starting at the west edge and continuing across a Home Owners Association (HOA) open-space-easement heading north, then turning east on the north boundary of the subdivision between private lots and the Mt. Gower Preserve BLM property.
- **Segment 4-** (9.7 miles) is located in the Mt. Gower Preserve BLM in the western portion of the unit, and private property for most of the remainder of the unit, except for two pole sites on CNF land. The unit covers a large area of undeveloped land, ranchland, and pastures in a northeasterly direction for approximately 9.7 miles. The main land uses are for preserve and agricultural uses of crop cultivation and ranchland for cattle and horses. The segment briefly crosses CNF land with poles P115 and P116. Both of these poles were previously replaced with steel poles through the Corrective Maintenance Program (CMP) and are not intended to be replaced again in this Proposed Project.
- **Segment 5-** (0.17 miles) is the eastern terminus of TL 637 and is comprised of a small amount of commercial uses, residential development, and the Santa Ysabel Substation in the rural community of Santa Ysabel. This portion of the tieline alignment is where facilities must support both TL 637 and TL 626B on new steel double circuit poles.

Construction for the Proposed Project will typically require one for one structure replacement. Some minor relocations may be made to avoid environmentally, biologically, or culturally sensitive locations. All new structures will typically be placed within six (6) to eight (8) feet from the existing structures in the same alignment.

The small portion of this tieline alignment coming into Santa Ysabel Substation in Segment 5, (see “Appendix 1 – Proposed Project Segment Map”) is where facilities must support both TL 637 and TL 626B. These, approximately 12, wood double circuit structures will be replaced with approximately 5 steel pole structures supported by micropile foundations, and

approximately 7 direct embedded steel pole structures. This portion of TL 626B will be re-conducted along with TL 637.

Currently, the rest of TL 637 consists of approximately 144 wood pole structures and 4 light duty steel pole structures supporting one 69 kV circuit of 3-phase single wire 3/0 ACSR/AW conductor and ranging in minimum sag heights of approximately 41 feet. to 110 feet. above grade. These structures will be replaced by approximately 64 steel pole structures supported by micropile foundations, and 80 direct embedded steel pole structures supporting one 69 kV circuit of 3-phase single wire 636ACSS/AW conductor and will range in minimum sag heights of approximately 41 feet. to 110 feet. above grade. The average height increase of the poles would be approximately 12 feet over the entire alignment – this is an average of approximately 19 percent increase in height.

Existing distribution circuits numbered Ckt. 970, 975, or 222 are currently underbuilt through portions of the TL 637 route between the Creelman and Santa Ysabel Substations, or on their own distribution pole structures. The current distribution underbuilt will be transferred to the new steel poles in an overhead position throughout the majority of the TL 637 route. Where distribution underbuilt circuits currently reside on poles within the corridor and there are distribution circuits that are on separate poles along Creelman Lane, Segment 1, (see, “Appendix 1 – Proposed Project Segment Map”) both will be moved over to the new steel poles creating a second distribution underbuilt to consolidate and “fire-harden” the 12 kV in addition to the 69 kV. After circuits are moved, the old wood poles will be removed creating a significant reduction of poles in the area. In addition, taller poles with a vacant distribution position will be added for those portions of TL 637’s alignment where overhead distribution is not present at this time. This vacant distribution position is being created to support projected growth and future distribution needs in the Ramona to Santa Ysabel area. Completion of this Proposed Project will help increase safety and reliability measures for both existing and future electric infrastructure that serves the Ramona to Santa Ysabel area.

V. Field Management Measures Considered

Per the “EMF Design Guidelines for Electrical Facilities, Table 3-1”, all portions of the power lines, TL 637 and TL 626B, within scope of the Proposed Project were reviewed for suitable application of magnetic field reduction measures, as listed in “*Table 1: Magnetic Field Reduction Measures Adopted or Rejected*” below. These techniques will be discussed under the “Section VI- Magnetic Field Reduction Measures Evaluated for the Project” that follows.

Table 1: Magnetic Field Reduction Measures Adopted or Rejected

Segment(s)	Location (Street, Area)	Adjacent Land Use	Reduction Measure Considered	Measure Adopted? (Yes/No)	Estimated Cost to Adopt
1- 5	Within TL 637 existing ROW	Residential, Agricultural, Commercial, Undeveloped	Locate power lines closer to center of the utility corridor to extent possible.	No	N/A
	<u>Reason not adopted:</u> The alignment of the new steel poles and re-conductor for all tielines is to be the same as the old poles, which is as close to center of easement as possible. The steel poles will be located as close as possible to the existing pole locations. Therefore this option was rejected.				
1 - 5	Within TL 637 existing ROW	Residential, Agricultural, Commercial, Undeveloped	Increasing structure height	Yes	No-Cost
	By design, the pole height will increase for this Project to compensate for heavier conductor wire while maintaining minimum sag. Per SDG&E Standards for 69kV double circuit and single circuit overhead transmission lines with no distribution underbuild, minimum sag height is 30 feet from lowest circuit wire to ground as per <i>GO-95 Design Standards</i> and 35 feet from lowest circuit wire for double underbuild. In some Segments in this Proposed Project there will be single distribution 12 kV underbuild and/or double distribution underbuild. Through modeling, it was found by raising the sag height from the initial <i>GO-95 Design Standard</i> minimum height for this configuration by an additional three (3) feet (33ft. sag) for Segment 1 and 5 where the alignment is 6-8 feet from edge of franchise or ROW at closest side, an additional six (6) feet (41ft. sag) for Segment 1 where there is double underbuild, and an additional four (4) feet (34ft. sag) for Segments 2-4 where the alignment centers within the easement ,and permanent residence exist (i.e., which also raises pole heights by approx. that amount) the 15% reduction at ROW for a “low-cost” option could be achieved. However, the initial Project design shows minimum sag height to be from 41ft. to 64ft. from lowest circuit wire to ground for TL 637. This is due to an additional vertical separation distance implemented by SDG&E for both power line and distribution circuits sharing the same pole for “safety and maintenance considerations” by design. This should be considered as a “no-cost” EMF reduction measure, as it indeed reduces fields at no additional Project cost. Raising pole heights beyond that imposed by SDG&E for safety and maintenance reasons as a “low-cost” measure would be unreasonable, as the final initial design heights already will be 12 feet higher on average than the existing poles and thereby could create visual and/or aesthetic concerns.				

Segment(s)	Location (Street, Area)	Adjacent Land Use	Reduction Measure Considered	Measure Adopted? (Yes/No)	Estimated Cost to Adopt
1 - 5	Within TL 637 existing ROW	Residential, Agricultural, Commercial, Undeveloped	Reduce conductor (phase) spacing.	No	N/A
	Reason not adopted: The new steel poles in the Proposed Project have equivalent pole top configurations as the existing wood poles had, which provide optimum magnetic field reduction. As part of the enhanced SDG&E transmission design standards for the backcountry in Fire Threat Zone or in High Risk Fire Areas such as this Proposed Project scope, phase spacing will be increased, longer polymer insulators that are less susceptible to contamination will be installed, avian protection will be improved and overall maintenance requirements for the pole will be reduced as a fire hardening measure. There are no alternative poletop configurations to be considered for this Project. Therefore this option was rejected.				
5	Within TL 637 existing ROW	Residential, Agricultural, Commercial, Undeveloped	Phasing Circuits to Reduce Magnetic Fields	No	N/A
	Reason not adopted: Reduction of magnetic field values (milligauss) through phasing techniques was considered and modeled for the Proposed Project for <u>Segments 5</u> where two tielines share a common corridor. For approximately 0.6 miles before Santa Ysabel Substation, TL 637 shares common structures with TL 626B within the same easement. Current flow in these two tielines travels in opposite directions. Double circuits with current flow in opposite directions should be phased the same for lowest magnetic field values at ROW (e.g.,A-B-C (t-b) and A-B-C (t-b)). Modeling showed a difference of 69.6% at left ROW and 58.4% right ROW for same phase configuration vs. opposite phase configuration (e.g.,A-B-C (t-b) and C-B-A (t-b)). Phase currently is (A-B-C (t-b)) for TL 626B and (A-B-C (t-b)) for TL 637 so both should remain as is. Therefore, no "no-cost" or "low-cost" alternatives were considered for this portion of the Proposed Project.				
1 - 5	Within TL 637 existing ROW	Residential, Agricultural, Commercial, Undeveloped	Placing Overhead Underground	No	N/A
	Reasons not adopted: These segments vary in length from several feet to several miles as the tieline travels between Creelman Substation and Santa Ysabel Substation, a total of approximately 13.6 miles. Based on preliminary cost estimates for the Proposed Project, only approximately 0.3 miles of the 13.6 miles could be undergrounded and still be considered a "low-cost" field-reduction measure. As there are no known schools, day-care centers or hospitals on lands adjacent any of these segments, priority for low-cost field reduction would be given to segments adjacent to residential land use. Preliminary review suggests that the total of segment miles adjacent to residences is far greater than 0.3 miles. Though evaluation of "low-cost" measures for these Segments can be prioritized by considering location and/or density of adjacent permanently occupied structures ⁵ , the population density along most of these Segments is consistently sparse, making prioritization difficult. A more broadly effective "no-cost" measure is proposed for use under "Increasing structure height" in this Table. For these reasons, undergrounding as a "low-cost" field-reduction measure was not adopted.				

⁵ SDG&E Guidelines, p. 12: "When spending for "low-cost" measures would otherwise disallow equitable magnetic field reduction for all areas within a single land use class, prioritization can be achieved by considering location and/or density of permanently occupied structures on lands adjacent to the projects, as appropriate."

Segment(s)	Location (Street, Area)	Adjacent Land Use	Reduction Measure Considered	Measure Adopted? (Yes/No)	Estimated Cost to Adopt
1 - 5	Within TL 637 existing Easement	Residential, Agricultural, Commercial, Undeveloped	Increase trench depth	No	N/A
	<u>Reasons not adopted:</u> Undergrounding the 69 kV tieline, TL 637, is not within scope of the Proposed Project and was discarded due to the cost that would far exceed 4% of the total Project cost. (see “Placing overhead underground” above in this table)				

VI. Magnetic Field Reduction Measures Evaluated for the Project

Per SDG&E’s Guidelines this FMP is limited to an assessment of increasing structure height as a field reduction technique, and phasing circuits to reduce magnetic fields for those double circuit pole portions near Santa Ysabel Substation in Segment 5 where TL 637 and TL 626B share a common easement. Other techniques such as locating power lines closer to the center of the easement, reducing conductor (phase) spacing, placing overhead underground to reduce magnetic fields, and increasing trench depth were not implemented.

Locating power lines closer to the center of the easement: The alignment of the new steel poles and re-conductor for all power lines is to be the same as the old poles, which is as close to center of easement as possible. The steel poles will be located as close as possible to the existing pole locations. Therefore locating power lines closer to center of easement was discarded as a reduction technique.

Increasing structure height: By design, the pole height will increase for the Proposed Project to compensate for heavier conductor wire while maintaining minimum sag. Per SDG&E Standards for 69 kV double circuit and single circuit overhead power lines with no distribution underbuild, minimum sag height is 30 feet from lowest circuit wire to ground as per *GO-95 Design Standards* and 35 feet from lowest circuit wire for double underbuild. In some Segments in this Proposed Project there will be single distribution 12 kV underbuild and/or double distribution underbuild.

Through modeling, it was found by raising the sag height from the initial *GO-95 Design Standard* minimum height for this configuration by an additional three (3) feet (**33ft. sag**) for Segment 1 and 5 where the alignment is 6-8 feet from edge of franchise or ROW at closest side, an additional six (6) feet (**41ft. sag**) for Segment 1 where there is double underbuild, and an additional four (4) feet (**34ft. sag**) for Segments 2-4 where the alignment centers on 30-50 easement width and permanent residence exist (i.e., which also raises pole heights by approx. that amount) the 15% reduction at ROW for a “low-cost” option could be achieved. However, the initial Proposed Project design shows minimum sag height to be from **41ft. to 64ft.** from lowest circuit wire to ground for TL 637. This is due to an additional vertical separation distance implemented by SDG&E for both transmission and distribution circuits sharing the same pole for “safety and maintenance considerations” by design. This achieves a magnetic field reduction of **55 - 76%** for no underbuild or single underbuild, and **34 - 65%** for double underbuild

respectively, at the closest ROW without raising milligauss values at the opposite ROW. This should be considered as a “no-cost” EMF reduction measure, as it indeed reduces fields at no additional Proposed Project cost. Raising pole heights beyond that imposed by SDG&E for safety and maintenance reasons as a “low-cost” measure would be unreasonable, as the final initial design heights already will be 12 feet higher on average than the existing poles and thereby could create visual and/or aesthetic concerns. (see “no-cost” options below)

Reducing conductor (phase) spacing: The new steel poles in the Proposed Project have SDG&E Standard pole-head configurations equivalent to those on the existing wood poles which provide optimum magnetic field reduction. As part of the enhanced transmission design standards for the backcountry in “Fire Threat Zone” or in a “High Risk Fire Areas” such as this Proposed Project scope, phase spacing will be increased, longer polymer insulators that are less susceptible to contamination will be installed, avian protection will be improved and overall maintenance requirements for the pole will be reduced as a “fire hardening” measure. Therefore reducing conductor phase spacing to reduce magnetic fields was rejected as a reduction technique.

Phasing Circuits to Reduce Magnetic Fields: Reduction of magnetic field values (milligauss) through phasing techniques was considered and modeled for the Proposed Project for Segment 5 where two tielines share a common easement. For approximately 0.6 miles before Santa Ysabel Substation, **TL 637** shares common structures with **TL 626B** within the same easement. Current flow in these two tielines travels in opposite directions. Double circuits with current flow in opposite directions should be phased the same for lowest magnetic field values at ROW (e.g., A-B-C (t-b) and A-B-C (t-b)). Modeling showed a difference of **69.6%** at left ROW and **58.4%** right ROW for same phase configuration vs. opposite phase configuration (e.g., A-B-C (t-b) and C-B-A (t-b)). Phase currently is **(A-B-C (t-b))** for **TL 626B** and **(A-B-C (t-b))** for **TL 637** so both should remain as is. Therefore, no "no-cost" or "low-cost" alternatives were considered for this portion of the Proposed Project.

Undergrounding to reduce magnetic fields: These Segments vary in length from several feet to several miles as the tieline travels between Creelman Substation and Santa Ysabel Substation, a total of approximately 13.6 miles. Based on preliminary cost estimates for Proposed Project, only approximately 0.3 miles of the 13.6 miles could be undergrounded and still be considered a "low-cost" field-reduction measure. As there are no known schools, day-care centers or hospitals on lands adjacent any of these segments, priority for low-cost field reduction would be given to segments adjacent to residential land use. Preliminary review suggests that the total of segment miles adjacent to residences is far greater than 0.3 miles. Though evaluation of “low-cost” measures for these Segments can be prioritized by considering location and/or density of adjacent permanently occupied structures⁶, the population density along most of these Segments is consistently sparse, making prioritization difficult. A more broadly effective "no-cost" measure is proposed for use under "Increasing structure height" in the Table 1 above. For these reasons, undergrounding as a "low-cost" field-reduction measure was rejected as a reduction technique.

⁶ Ibid

Increasing trench depth: Undergrounding the 69 kV tieline, TL 637, is not within scope of the Proposed Project and was discarded due to the cost that would far exceed 4% of the total Project cost. (see “Table 1: Magnetic Field Reduction Measures Adopted or Rejected: Undergrounding to reduce magnetic fields” above). Therefore this reduction technique was rejected.

VII. Magnetic Field Reduction Measures Recommended for the Project

Reduction of magnetic field values by increasing structure height as a field reduction technique was adopted as a viable method to reduce magnetic fields at the edge-of-ROW for the Proposed Project. The recommended field reduction techniques are:

A. “No-Cost” Field Management Technique:

The Proposed Project design shows minimum sag height to be from **41ft.** to **64ft.** from lowest circuit wire to ground for TL 637. This is due to an additional vertical separation distance implemented by SDG&E for both transmission and distribution circuits sharing the same pole for “safety and maintenance considerations” by design. This achieves a magnetic field reduction of 55 - 76% for no underbuild or single underbuild, and 34 - 65% for double underbuild respectively, at the closest ROW without raising milligauss values at the opposite ROW. This constitutes a “no-cost” EMF reduction measure, as it indeed reduces fields at no additional Project cost.

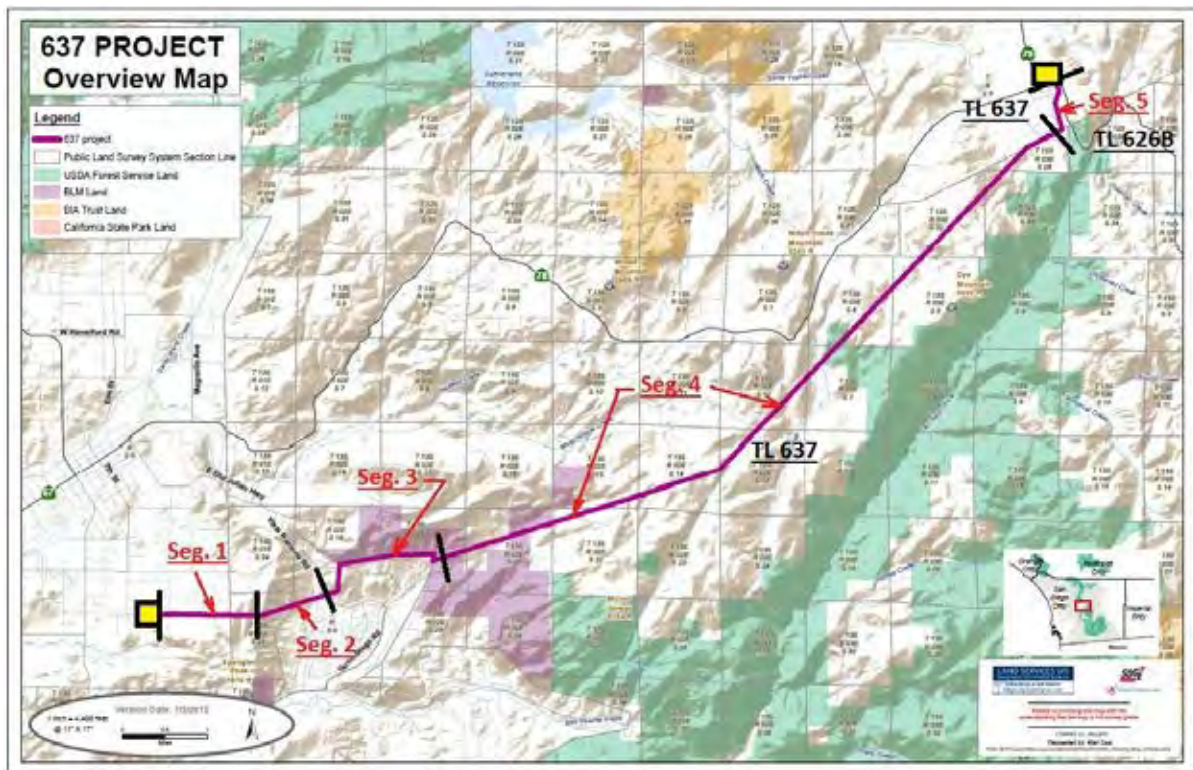
B. “Low-Cost” Field Management Technique:

There are no “low-cost” magnetic field reduction techniques recommended for the Proposed Project.

Appendix 1

Proposed Project

Segment Map



APPENDIX 4.3-A
EMISSIONS SPREADSHEETS

Table 4.3-A (1): Worker Trip Emissions Calculations

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO		NO _x		ROG						SO _x		CH ₄		N ₂ O	
					Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Hot-Soak (g/vehicle-day)	Resting Loss (g/vehicle-day)	Running Evaporative (g/mi)	Diurnal Evaporative (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)	Running Exhaust (g/mi)	Start-Up (g/vehicle-day)
Clear and Grade for Staging Areas, Access Roads, Poles	Light-Duty Truck, catalyst	5	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		
Construction Crews	Light-Duty Truck, catalyst	100	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		
SWPPP	Light-Duty Truck, catalyst	10	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		
Monitors	Light-Duty Truck, catalyst	20	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		
Testing and Inspection Crews	Light-Duty Truck, catalyst	5	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		
SDG&E Personnel	Light-Duty Truck, catalyst	5	35	80	3.0975	38.14685	0.301284	2.236171	0.094167	3.031413	1.876347	0.796436	0.20051	1.078687	0.004048	0.02407547	0.03	0.01059328		

EMFAC2011 emission factors for 2013 - 2017
Assume startup after 8 hours
Assume 45 minutes run time total

Construction Phase	Vehicle Class	No. of Daily Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle e-day)	Emissions, lbs/day												CO2e
					CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	CO2	CH4	N2O		
Crux and H&M Crews	Light-Duty Truck, catalyst	100	35	80	63.04	5.81	3.20	0.07	0.87	0.39	0.84	0.35	6668.89	0.32	0.58	6854.51772	
SWPPP	Light-Duty Truck, catalyst	10	35	80	6.30	0.58	0.32	0.01	0.09	0.04	0.08	0.03	666.89	0.03	0.06	685.451772	
Monitors	Light-Duty Truck, catalyst	20	35	80	12.61	1.16	0.64	0.01	0.17	0.08	0.17	0.07	1333.78	0.06	0.12	1370.90354	
Testing and Inspection Crews	Light-Duty Truck, catalyst	5	35	80	3.15	0.29	0.16	0.00	0.04	0.02	0.04	0.02	333.44	0.02	0.03	342.725886	
SDG&E Personnel	Light-Duty Truck, catalyst	5	35	80	3.15	0.29	0.16	0.00	0.04	0.02	0.04	0.02	333.44	0.02	0.03	342.725886	
TOTAL					88.26	8.13	4.48	0.10	1.22	0.55	1.18	0.48	9336.44	0.44	0.81	9596.32	

Table 4.3-A (2): Construction Truck Emission Calculations - Crux

Vehicle	Vehicle Class	Peak No. of Trucks per day	Speed (mph)	VMT (mi/vehicle-day)	CO	NO _x	ROG	SOx	PM10			PM2.5			CO2	CH4	N2O	Emissions, lbs/day												CO2e			
					Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	Running Exhaust (g/mi)	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Paved Road Fugitive Dust PM2.5	Unpaved Road Fugitive Dust PM10	Unpaved Road Fugitive Dust PM2.5	CO2	CH4		N2O		
Crux																																	
Crew Trucks	Light Duty Truck 1, Diesel	15	35	60	0.379406935	0.64372	0.09263769	0.003186	0.077891	0.00799996	0.03674982	0.071659	0.002	0.0157499	293.2085	0.01675482	0.01	0.75	1.28	0.18	0.01	0.24	0.18	0.09	0.02	0.00	0.00	581.78	0.03	0.01	587.0938		
Material Transport Units	Heavy Duty Truck, Diesel	4	35	80	2.013841104	8.936723	0.47044926	0.010712	0.243782	0.01199994	0.13033932	0.22428	0.003	0.0558597	1765.771	0.10090144	0.05	1.42	6.30	0.33	0.01	0.27	0.20	0.03	0.01	0.07	0.01	1245.72	0.07	0.03	1257.108		
Tractor Trailer Units	Heavy Duty Truck, Diesel	2	15	0.25	4.358099782	15.34266	1.75152037	0.010712	0.349447	0.01199994	0.13033932	0.321492	0.003	0.0558597	2702.306	0.15441789	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.05	2.98	0.00	0.00	3.006027		
Fuel Truck	Heavy Duty Truck, Diesel	1	15	0.25	4.358099782	15.34266	1.75152037	0.010712	0.349447	0.01199994	0.13033932	0.321492	0.003	0.0558597	2702.306	0.15441789	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.02	1.49	0.00	0.00	1.503014		
Subtotal																		2.18	7.61	0.52	0.01	0.52	0.38	0.12	0.03	0.76	0.08	1831.97	0.10	0.05	1848.71		

2014 Emission Factors from EMFAC2011 average
temp 60F

Paved Road Fugitive Dust
EPA's AP-42, Section 13.2.1, November 2006
E = k(sL/2)^0.65 x (W/3)^1.5 - C
For LDT assume 2 tons/vehicle, MDT assume 13 tons/vehicle, HDT assume 20 tons/vehicle
Assume silt loading for 10,000 ADT roadways = 0.03 g/m3
Assume k = 0.016 PM10
Assume 6 miles in addition for track-out for PM10

Emission Factors

PM10, LDT	9.81231E-05
PM10, MDT	0.008944829
PM10, HDT	0.017495628

Unpaved Road Fugitive Dust
EPA's AP-42, Section 13.2.1, November 2006
E = k(s/12)^a x (W/3)^b
For LDT assume 2 tons/vehicle, MDT assume 13 tons/vehicle, HDT assume 20 tons/vehicle
Assume silt = 8.5%
Assume k = 1.5 for PM10, 0.15 for PM2.5
a = 0.9, b = 0.45

Emission Factors	PM10	PM2.5
PM10, LDT	0.916355739	0.09163557
PM10, MDT	2.127527168	0.21275272
PM10, HDT	2.582641374	0.25826414

Table 4.3-A (4): Construction Heavy Equipment Emissions - Drilling

TL-637 Off Road Emissions

Crux Equipment - Drilling

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Drilling Rig	66	0.75	8	150	7	8,400	0.301	3.451	3.134	0.150	0.150	1.84	21.09	19.15	0.92	0.92	568.299	0.027	3,473.00	0.17	3,476.46
Air Compressor	173	0.48	8	150	7	8,400	0.901	3.880	5.608	0.495	0.495	9.24	39.78	57.49	5.07	5.07	568.299	0.081	5,826.22	0.83	5,843.65
Crane	66	0.43	2	150	5	1,500	0.527	1.493	5.040	0.177	0.177	0.33	0.93	3.15	0.11	0.11	568.299	0.047	355.57	0.03	356.19
Transport Unit	225	0.57	4	150	4	2,400	0.452	1.283	3.770	0.125	0.125	2.04	5.80	17.06	0.57	0.57	568.299	0.040	2,570.92	0.18	2,574.72
Tractor Trailer Unit	450	0.57	2	150	3	900	0.452	1.283	3.770	0.125	0.125	1.53	4.35	12.79	0.42	0.42	568.299	0.040	1,928.19	0.14	1,931.04
Forklift	150	0.60	9	150	6	8,100	0.798	3.905	5.107	0.431	0.431	8.55	41.84	54.72	4.62	4.62	568.299	0.072	6,089.02	0.77	6,105.22
Flatbed Truck	250	0.57	5	150	2	1,500	0.452	1.283	3.770	0.125	0.125	1.42	4.03	11.84	0.39	0.39	568.299	0.040	1,785.36	0.13	1,788.00
Water Truck	300	0.57	2	150	3	900	0.452	1.283	3.770	0.125	0.125	1.02	2.90	8.53	0.28	0.28	568.299	0.040	1,285.46	0.09	1,287.36
Generator Set	10	0.74	12	150	6	10,800	0.792	3.567	5.478	0.424	0.424	0.93	4.19	6.43	0.50	0.50	568.299	0.047	667.54	0.06	668.70
							Totals					26.91	124.92	191.17	12.88	12.88	Totals		23,981.27	2.384	24,031.34

Table 4.3-A (5): Construction Heavy Equipment Emissions - Grouting

TL-637 Off Road Emissions

Crux Equipment - Grouting

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Grout Plant	34	0.74	2	150	4	1,200	0.792	3.567	5.478	0.424	0.424	0.35	1.58	2.43	0.19	0.19	568.299	0.047	252.18	0.02	252.62

Table 4.3-A (6): Construction Heavy Equipment Emissions - Cap and Test

TL-637 Off Road Emissions

Crux Equipment - Cap and Test

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Air Compressor	173	0.48	8	150	0	0	0.901	3.880	5.608	0.495	0.495	0.00	0.00	0.00	0.00	0.00	568.299	0.081	0.00	0.00	0.00
Crane	66	0.43	2	150	5	1,500	0.527	1.493	5.040	0.177	0.177	0.33	0.93	3.15	0.11	0.11	568.299	0.047	355.57	0.03	356.19
Transport Unit	225	0.57	4	150	6	3,600	0.452	1.283	3.770	0.125	0.125	3.07	8.71	25.58	0.85	0.85	568.299	0.040	3,856.38	0.27	3,862.08
Tractor Trailer Unit	450	0.57	2	150	3	900	0.452	1.283	3.770	0.125	0.125	1.53	4.35	12.79	0.42	0.42	568.299	0.040	1,928.19	0.14	1,931.04
Forklift	150	0.60	9	150	6	8,100	0.798	3.905	5.107	0.431	0.431	8.55	41.84	54.72	4.62	4.62	568.299	0.072	6,089.02	0.77	6,105.22
Flatbed Truck	250	0.57	5	150	5	3,750	0.452	1.283	3.770	0.125	0.125	3.55	10.08	29.61	0.98	0.98	568.299	0.040	4,463.40	0.31	4,470.00
Generator Set	10	0.74	12	150	7	12,600	0.792	3.567	5.478	0.424	0.424	1.09	4.89	7.51	0.58	0.58	568.299	0.047	778.79	0.06	780.15
							Totals					18.12	70.80	133.36	7.56	7.56	Totals		17,471.35	1.587	17,504.67

Table 4.3-A (7): Construction Heavy Equipment Emissions - Digging

TL-637 Off Road Emissions

H&M Equipment - Digging

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Pressure Digger	82	0.75	4	150	8	4,800	0.301	3.451	3.134	0.150	0.150	1.31	14.97	13.60	0.65	0.65	568.299	0.027	2,465.68	0.12	2,468.14
Air Compressor	78	0.48	2	150	8	2,400	0.901	3.880	5.608	0.495	0.495	1.19	5.12	7.41	0.65	0.65	568.299	0.081	750.53	0.11	752.77
							Totals					2.50	20.10	21.00	1.30	1.30	Totals		3,216.21	0.224	3,220.91

Table 4.3-A (8): Construction Heavy Equipment Emissions - Construction of Shoe-Fly

TL-637 Off Road Emissions

H&M Equipment - Shoe-Fly Construction

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Bucket Truck	250	0.57	2	150	2	600	0.452	1.283	3.770	0.125	0.125	0.57	1.61	4.74	0.16	0.16	568.299	0.040	714.14	0.05	715.20
							Totals					0.57	1.61	4.74	0.16	0.16			714.14	0.050	715.20

Table 4.3-A (9): Construction Heavy Equipment Emissions - Mobilization

TL-637 Off Road Emissions

Mobilization

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Tractor Trailer Unit	250	0.57	2	150	4	1,200	0.452	1.283	3.770	0.125	0.125	1.14	3.22	9.48	0.31	0.31	568.299	0.040	1,428.29	0.10	1,430.40
							Totals					1.14	3.22	9.48	0.31	0.31	Totals		1,428.29	0.101	1,430.40

Table 4.3-A (10): Construction Heavy Equipment Emissions - Power Line Installation

TL-637 Off Road Emissions

H&M Equipment - Power Line Installation

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Bucket Truck	250	0.57	8	150	2	2,400	0.452	1.283	3.770	0.125	0.125	2.27	6.45	18.95	0.63	0.63	568.299	0.040	2,856.58	0.20	2,860.80
Line Truck	250	0.57	8	150	2	2,400	0.452	1.283	3.770	0.125	0.125	2.27	6.45	18.95	0.63	0.63	568.299	0.040	2,856.58	0.20	2,860.80
Crane	208	0.43	8	150	1	1,200	0.527	1.493	5.040	0.177	0.177	0.83	2.36	7.95	0.28	0.28	568.299	0.047	896.46	0.07	898.02
							Totals					5.38	15.25	45.85	1.54	1.54	Totals		6,609.62	0.476	6,619.62

Table 4.3-A (11): Construction Heavy Equipment Emissions - Transmission Line Cable Pulling

TL-637 Off Road Emissions

H&M Equipment - Cable Pulling

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
OH Puller	300	0.62	1	150	4	600	0.324	1.170	3.394	0.109	0.109	0.53	1.92	5.57	0.18	0.18	568.299	0.029	932.15	0.05	933.15
OH Tensioner	300	0.62	1	150	4	600	0.324	1.170	3.394	0.109	0.109	0.53	1.92	5.57	0.18	0.18	568.299	0.029	932.15	0.05	933.15
							Totals					1.06	3.84	11.13	0.36	0.36	Totals		1,864.29	0.095	1,866.29

Table 4.3-A (12): Construction Heavy Equipment Emissions - Sag Work

TL-637 Off Road Emissions

H&M Equipment - Sag Work

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Crawler Tractor	82	0.64	1	150	4	600	1.116	4.194	6.637	0.584	0.584	0.52	1.94	3.07	0.27	0.27	568.299	0.100	263.01	0.05	263.98
							Totals					0.52	1.94	3.07	0.27	0.27	Totals		263.01	0.046	263.98

Table 4.3-A (13): Construction Heavy Equipment Emissions - Underground Construction

TL-637 Off Road Emissions

H&M Equipment - Underground Distribution

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Line Truck	250	0.57	3	150	2	900	0.452	1.283	3.770	0.125	0.125	0.85	2.42	7.11	0.24	0.24	568.299	0.040	1,071.22	0.08	1,072.80
Crew Truck	250	0.57	3	150	2	900	0.452	1.283	3.770	0.125	0.125	0.85	2.42	7.11	0.24	0.24	568.299	0.040	1,071.22	0.08	1,072.80
Splice Van	250	0.57	1	150	4	600	0.452	1.283	3.770	0.125	0.125	0.57	1.61	4.74	0.16	0.16	568.299	0.040	714.14	0.05	715.20
Underground Puller	300	0.62	2	150	4	1,200	0.324	1.170	3.394	0.109	0.109	1.06	3.84	11.13	0.36	0.36	568.299	0.029	1,864.29	0.10	1,866.29
							Totals					3.33	10.29	30.08	0.99	0.99	Totals		4,720.87	0.296	4,727.09

Table 4.3-A (14): Construction Heavy Equipment Emissions - Demobilization

TL-637 Off Road Emissions

Demobilization

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Tractor Trailer Unit	250	0.57	1	150	2	300	0.452	1.283	3.770	0.125	0.125	0.28	0.81	2.37	0.08	0.08	568.299	0.040	357.07	0.03	357.60
Crew Truck	250	0.57	4	150	2	1,200	0.452	1.283	3.770	0.125	0.125	1.14	3.22	9.48	0.31	0.31	568.299	0.040	1,428.29	0.10	1,430.40
							Totals					1.42	4.03	11.84	0.39	0.39	Totals		1,785.36	0.126	1,788.00

Table 4.3-A (15): Construction Heavy Equipment Emissions - Cleanup

TL-637 Off Road Emissions

Cleanup

Equipment Activity							Criteria Emission Factors (g/bhp-hr)					Criteria Emissions (lbs/d)					GHG Emission Factors (g/bhp-hr)		GHG Emissions (lbs/day)		
Type	BHP	Load Factor	Quantity	Length (days)	hrs/ day	total hours	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂ e
Skip Loader	37	0.55	1	150	7	1,050	0.986	4.891	4.812	0.299	0.299	0.31	1.54	1.51	0.09	0.09	568.299	0.089	178.47	0.03	179.06
Crew Truck	250	0.57	5	150	2	1,500	0.452	1.283	3.770	0.125	0.125	1.42	4.03	11.84	0.39	0.39	568.299	0.040	1,785.36	0.13	1,788.00
Water Truck	250	0.57	2	150	2	600	0.452	1.283	3.770	0.125	0.125	0.57	1.61	4.74	0.16	0.16	568.299	0.040	714.14	0.05	715.20
							Totals					2.30	7.18	18.09	0.64	0.64	Totals		2,677.98	0.204	2,682.26

Table 4.3-A (16): Helicopter Emissions

Helicopter Mode	Engine	Assumed Engine	Operating Mode	Fuel Flow, kg/s	Time in Mode, min	Emission Incidents, g/kg fuel				Emissions, lbs/mode			Cruise Mode Emission factor, lbs/hour		
						CO	VOC	NOx	PM	CO	VOC	NOx	CO	VOC	NOx
Hughes 500E	Allison 250-C20B	250B17B													
			Taxi Out	0.008154	19	2.199837	23.004097	2.199837	N/A	0.045081939	0.471430067	0.045081939			
			Takeoff	0.031642	10.4	6.599994	0.402675	6.599994	N/A	0.287295342	0.017528297	0.287295342			
			Climbout	0.028926	0.09	5.981142	0.408337	5.981142	N/A	0.002059694	0.000140617	0.002059694	1.373129585	0.093744575	1.373129585
			Approach	0.010516	10.05	2.200637	5.988767	2.200637	N/A	0.03076471	0.083722432	0.03076471			
			Taxi In	0.008154	7	2.199837	23.004097	2.199837	N/A	0.016609136	0.173684761	0.016609136			
						Total per LTO				0.381810822	0.746506173	0.381810822			

Mode	Factors (lbs/min)			Minutes per LTO	Emissions (lb/LTO)		
	CO	HC	NO _x		CO	HC	NO _x
Approach	0.0687	0.0076	0.0032	8.50	0.584	0.064	0.027
Climb	0.0369	0.0016	0.0244	4.33	0.160	0.007	0.105
Take-off	0.0345	0.0013	0.0292	2.17	0.075	0.003	0.063
Idle	0.1014	0.0209	0.0010	7.00	0.710	0.146	0.007
Total per LTO				22.0	1.528	0.221	0.203

* EF's from Federal Aviation Administration, Emission and Dispersion Modeling System (EDMS)
* Time in mode based on default times in EDMS

Therefore

Assuming 1 LTO and 3 hours operation per day of pole installation & 1 installation per day

Component	Emissions (lb/day)		
	CO	HC	NO _x
LTO	0.382	0.747	0.382
Installation - assume 3 hours	4.119	0.281	4.119
Total per Day	4.501	1.028	4.501

* Installation is assumed to be 3 hours (180 minutes) per installation at climb mode factors

Helicopter GHG Emission Estimates
TL673 - Wood-to-Steel Project

Table of Factors and Constants

Value	Units	Description
6.84	lb/gallon	Jet Fuel Density (at 15 degrees C) -- equivalent to 820 kg/m ³
142	lb/hr	Jet Fuel Usage at Idle
20.8	gallon/hr	Calculated Usage at Idle
679	lb/hr	Jet Fuel Usage at Climbout/Approach
99.3	gallon/hr	Calculated Usage at Climbout/Approach
8.32	kg CO ₂ /gallon	CO ₂ emission factor for Jet fuel
0.31	g N ₂ O/gallon	N ₂ O emission factor for Jet fuel
0.27	g CH ₄ /gallon	CH ₄ emission factor for Jet fuel

* Fuel usage rates from EPA AP-42, Table II-1-8, Modal Emission Rates - Military Aircraft Engines
* Fuel density from Air BP Handbook of Products - © Air BP Ltd. 2000
* Emission factors from California Climate Action Registry's General Reporting Protocol 3.1

GHG Emissions

Component	Time in mode (hrs)	Emissions (tonnes/day)				Days of Operation	Emissions (total tonnes)		
		CO ₂	N ₂ O	CH ₄	CO ₂ e		CO ₂	CH ₄	CO ₂ e
LTO - Idle	0.117	0.020	0.000004	0.000003	0.021	90	1.814	0.0001	1.916
LTO - Other	0.250	0.043	0.000008	0.000007	0.046		3.886	0.0002	4.105
Installation	3.000	0.518	0.000092	0.000080	0.548		46.636	0.0024	49.262
Total per Installation	3.367	0.582	0.000104	0.000090	0.615520		52.336	0.0027	55.283

* Jet Fuel usage was based on fuel usage time spent in approach, idle, and takeoff for each LTO and 3 hours for installation

Table 4.3-A (17): Fugitive Dust Emissions

1) Earthmoving/Grading

Emission Types

- A) Dozing
- B) Grading
- C) Trenching

A) Dozing (AP-42 Section 11.9 for overburden)

$$E = k \times (s)^{1.5} / (M)^{1.4} \text{ For PM}_{10} \text{ and } k \times 5.7 \times (s)^{1.2} / (M)^{1.3} \text{ for PM}_{2.5}$$

E = lb/hr

k = Scaling Constant (0.75 for PM₁₀ and 0.105 for PM_{2.5})

s = Silt Content (assumed to be 16% - SCAQMD Handbook for Farm Roads)

M = Moisture Content = 10% (assumes watering when necessary for mitigation)

PM₁₀ Emission Factor

1.910914419 lb/hr

PM_{2.5} Emission Factor

0.835618668 lb/hr

Maximum Daily Dozer Use

	Hrs/day
	8

Dozer Emissions

Lbs/Day	PM ₁₀	PM _{2.5}
	15.29	6.68
Tons/Year	PM ₁₀	PM _{2.5}
	0.34	0.15

B) Grading

Grading

Disturbance - 6.5 acres staging areas, 69 SW poles x 314 sf, 87 micropile poles x 39 sf = 7.07 acres

Amount total disturbed

7.07 acres

Amount per day

0.707 Acres

Control - watering 3 x daily

0.61

PM₁₀ PM_{2.5}

Maximum Emission Factor, lbs/acre-day

20 4.2

Emissions, lbs/day

5.5146 1.158066

Average Emission Factor, lbs/acre-day

20 4.2

Emissions, tons/year

0.027573 0.00579033

Total

PM₁₀ PM_{2.5}

lbs/day

20.80 7.84

tons/year

0.37 0.16

C) Trenching - Dozing (AP-42 Section 11.9 for overburden)

$$E = k \times (s)^{1.5} / (M)^{1.4} \text{ For PM}_{10} \text{ and } k \times 5.7 \times (s)^{1.2} / (M)^{1.3} \text{ for PM}_{2.5}$$

E = lb/hr

k = Scaling Constant (0.75 for PM₁₀ and 0.105 for PM_{2.5})

s = Silt Content (assumed to be 16% - SCAQMD Handbook for Farm Roads)

M = Moisture Content = 10% (assumes watering when necessary for mitigation)

PM₁₀ Emission Factor

1.910914419 lb/hr

PM_{2.5} Emission Factor

0.835618668 lb/hr

Maximum Daily Trencher Use

	Hrs/day
	8

Trencher Emissions

Lbs/Day	PM ₁₀	PM _{2.5}
	15.29	6.68
Tons/Year	PM ₁₀	PM _{2.5}
	0.34	0.15

Table 4.3-A (18): Offroad Emission Factors

2014 Offroad Emission Factors (g/hp/hr)

Veh Type	BHP	Load Factor	Emission Factor (g/bhp-hr)						
			ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄
Air Compressor	78	0.48	0.901	3.880	5.608	0.495	0.495	568.299	0.081
Boom Truck/Auger	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Bucket Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Crane	208	0.43	0.527	1.493	5.040	0.177	0.177	568.299	0.047
Crawler Tractor	82	0.64	1.116	4.194	6.637	0.584	0.584	568.299	0.100
Crew Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Dozer	358	0.59	0.658	2.854	5.490	0.227	0.227	568.299	0.059
Drilling Rig	82	0.75	0.301	3.451	3.134	0.150	0.150	568.299	0.027
Flatbed Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Forklift	83	0.60	0.798	3.905	5.107	0.431	0.431	568.299	0.072
Fuel Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Generator Set	84	0.74	0.792	3.567	5.478	0.424	0.424	568.299	0.047
Grout Plant	84	0.74	0.792	3.567	5.478	0.424	0.424	568.299	0.047
Line Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Mower	74	0.43	1.051	4.156	6.287	0.541	0.541	568.299	0.094
OH Puller	300	0.62	0.324	1.170	3.394	0.109	0.109	568.299	0.029
OH Tensioner	300	0.62	0.324	1.170	3.394	0.109	0.109	568.299	0.029
Pressure Digger	82	0.75	0.301	3.451	3.134	0.150	0.150	568.299	0.027
Pulling Rig	82	0.75	0.301	3.451	3.134	0.150	0.150	568.299	0.027
Skip Loader	37	0.55	0.986	4.891	4.812	0.299	0.299	568.299	0.089
Splice Van	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Testing Jack	84	0.74	0.792	3.567	5.478	0.424	0.424	568.299	0.047
Tractor Trailer Unit	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Transport Unit	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Trencher	69	0.75	1.061	4.063	6.558	0.550	0.550	568.299	0.095
Underground Puller	300	0.62	0.324	1.170	3.394	0.109	0.109	568.299	0.029
Water Truck	250	0.57	0.452	1.283	3.770	0.125	0.125	568.299	0.040
Wire Truck	82	0.75	0.452	1.283	3.770	0.125	0.125	568.299	0.040

From: CalEEMod™ Users Guide Appendix D plus OFFROAD 2007

Table 4.3-A (19): Summary of Criteria Pollutant Emission Estimates

TL673 - Wood-to-Steel Project

Maximum Daily Emissions - lbs/day

Year	VOCs	CO	NOx	PM10	PM2.5
2014	36.45	243.56	240.28	40.61	24.13

Maximum Daily Emissions occur during the following simultaneous activities:
Drilling, Grouting, Digging, and Shoe-Fly Construction
These activities assume simultaneous use of heavy construction equipment,
truck trips, worker trips, and helicopter use.

APPENDIX 4.4-A
BIOLOGICAL TECHNICAL REPORT

FINAL BIOLOGICAL TECHNICAL REPORT

TL 637 WOOD TO STEEL POLE REPLACEMENT
CREELMAN SUBSTATION TO
SANTA YSABEL SUBSTATION,
RAMONA AND SANTA YSABEL,
SAN DIEGO COUNTY, CALIFORNIA

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Chambers Group Project

December 2012

TABLE OF CONTENTS

	<u>Page</u>
SECTION 1.0 – EXECUTIVE SUMMARY	1
SECTION 2.0 – BACKGROUND INFORMATION.....	2
2.1. PROJECT DESCRIPTION	2
2.2. PROJECT AREA	3
2.3. PROJECT COMPONENTS	3
2.3.1 Staging Yards.....	4
2.3.2 Helicopter Landing Zone	4
2.3.3 Stringing Sites.....	4
2.3.4 Fiber Optic Cable.....	6
2.3.5 Guard Structures.....	6
2.4. ACCESS	7
2.5. CONSTRUCTION METHODS	7
2.5.1 Directly-Embedded Steel Poles.....	7
2.5.2 Micropile Foundation Poles	7
2.5.3 Steel Replacement Poles.....	7
2.5.4 Wood Pole Removal.....	8
2.5.5 Anchors	8
SECTION 3.0 – REGULATORY SETTINGS	9
3.1. FEDERAL.....	9
3.1.1 Bureau of Land Management Sensitive Species	9
3.1.2 Clean Water Act of 1977 (Public Law 95-217)	9
3.1.3 Federal Endangered Species Act of 1973.....	10
3.1.4 Forest Service Sensitive Species.....	10
3.1.5 Migratory Bird Treaty Act, as Amended (16 USC 703-711)	10
3.1.6 Bald and Golden Eagle Protection Act, as Amended (16 USC. 668-668c)	10
3.2. STATE	11
3.2.1 California Endangered Species Act (California Fish and Wildlife Code Sections 2050-2116)	11
3.2.2 State Fully Protected Species	11
3.2.3 Sections 1600-1602 of the California Fish and Wildlife Code.....	12
3.2.4 California Environmental Quality Act (Public Resources Code, Sections 21000-21177).....	12
3.2.5 California Native Plant Protection Act	12
3.2.6 Porter-Cologne Water Quality Control Act of 1966 (California Water Code §§ 13000-13999.10).....	12
3.3. LOCAL.....	13
3.3.1 County of San Diego.....	13
3.3.2 Communities of Ramona and Santa Ysabel	13

3.3.3	Central Mountain Subregional Plan	14
3.3.4	North Mountain Subregional Plan	14
3.3.5	SDG&E Subregional Natural Community Conservation Plan	15
3.3.6	North County Multiple Species Conservation Plan	15
3.3.7	East County MSCP	16
3.3.8	Simon Preserve Resource Management Plan	16
3.3.9	County of San Diego Tree Ordinance	16
SECTION 4.0 – METHODS		17
4.1.	LITERATURE AND DATABASE REVIEW	17
4.1.1	Vegetation	17
4.1.2	Wildlife	17
4.1.3	Special Status Species	18
4.2.	FOCUSED PLANT SURVEYS	19
4.2.1	Weather Conditions for 2010	20
4.3.	FOCUSED SENSITIVE WILDLIFE SURVEYS	21
4.3.1	Quino Checkerspot Butterfly (<i>Euphydryas editha quino</i> ; QCB)	21
4.3.2	Coastal California Gnatcatcher (<i>Poliophtila californica californica</i> ; CAGN)	22
4.4.	JURISDICTIONAL DELINEATION SURVEY	24
4.4.1	Literature Review	24
4.4.2	Field Survey	24
4.4.3	Vegetation	25
4.4.4	Soils	25
4.4.5	Hydrology	26
4.5.	IMPACT DETERMINATION	26
SECTION 5.0 – RESULTS AND DISCUSSION		27
5.1.	ECOSYSTEMS	27
5.1.1	Forests and Woodlands	28
5.1.2	Grasslands and Meadows	31
5.1.3	Other Areas	32
5.2.	TOPOGRAPHY	34
5.3.	SPECIAL STATUS PLANTS	34
5.4.	SPECIAL STATUS WILDLIFE	38
5.5.	SPECIAL STATUS PLANTS WITHIN BLM LANDS	63
5.6.	SPECIAL STATUS WILDLIFE WITHIN BLM LANDS	75
5.7.	USFWS CRITICAL HABITAT AREAS	77
5.8.	PRESERVE AREAS	78
5.9.	WILDLIFE CORRIDORS	78
5.10.	JURISDICTIONAL DELINEATION SURVEY	79
5.10.1	Soils	79
5.10.2	Drainage Features and Connectivity	84

5.10.3 Vegetation Communities	85
SECTION 6.0 – IMPACT DETERMINATIONS	86
6.1. PROJECT SPECIFIC IMPACTS.....	86
6.1.1 Permanent Impacts.....	86
6.1.2 Temporary Impacts	87
6.2. VEGETATION COMMUNITIES.....	89
6.2.1 Vegetation Impacts	89
6.3. SENSITIVE PLANT SPECIES.....	91
6.4. NATIVE TREE TRIMMING	91
6.5. SENSITIVE WILDLIFE SPECIES	92
6.5.1 Sensitive Invertebrate Species	92
6.5.2 Sensitive Amphibian Species.....	92
6.5.3 Sensitive Reptile Species.....	92
6.5.4 Sensitive Avian Species and Nesting Birds	93
6.5.5 Sensitive Mammal Species.....	94
6.6. USFWS CRITICAL HABITAT AREAS.....	95
6.7. WILDLIFE MOVEMENT CORRIDORS.....	95
6.8. PRESERVE AREAS	96
6.9. AQUATIC RESOURCES	97
SECTION 7.0 – AVOIDANCE AND MINIMIZATION OF IMPACTS TO BIOLOGICAL RESOURCES.....	99
7.1. SDG&E OPERATIONAL PROTOCOLS (INCORPORATED INTO PROPOSED PROJECT DESIGN).....	99
SECTION 8.0 – REFERENCES	100

LIST OF APPENDICES

APPENDIX A – Water Permits

APPENDIX B – Figures

APPENDIX C – Plant Species Observed List

APPENDIX D – CNDDDB Sensitive Plant Species Occurrence Table

APPENDIX E – CNDDDB Sensitive Wildlife Species Occurrence Table

APPENDIX F – Wildlife Species Observed List

APPENDIX G – Site Photographs

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1. Criteria for Evaluating Sensitive Wildlife Species Potential for Occurrence (PFO)	19
Table 2. Weather Conditions of San Diego County (April-September 2010).....	20
Table 3. Vegetation Communities.....	27
Table 4. Anticipated Impact Summary Table	89
Table 5. Anticipated Impacts by Vegetation Community Type	90
Table 6. Anticipated Credit Withdrawal Summary Table.....	96

SECTION 1.0 – EXECUTIVE SUMMARY

San Diego Gas and Electric (SDG&E) Company proposes to replace wood poles with steel poles and install new steel poles along the approximately 14-mile expanse of Tie Line (TL) 637 from the existing Creelman Substation to the existing Santa Ysabel Substation. SDG&E has contracted Chambers Group, Inc. (Chambers Group) to conduct wildlife surveys, plant surveys, vegetation mapping, and drainage surveys for this wood to steel project. The biological surveys were conducted during the course of several months in the spring, summer, and fall of 2010, in the spring and summer of 2011 and in the spring of 2012. Focused rare plant surveys and sensitive wildlife surveys for the targeted species were performed in accordance with survey protocols set forth by the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS 2001), and United States Fish and Wildlife Service (USFWS 2000) Guidelines.

Construction of the TL 637 wood to steel pole project would result in temporary disturbance and/or permanent loss of sensitive vegetation communities, native trees, wetlands and jurisdictional waters; however, SDG&E has incorporated project design features according to the NCCP and the Operation Protocols, and the associated 401 (Certification No. 11C-114; Categorical Exemption; Appendix A) permit conditions, which will ensure that project impacts will remain less than significant.

SECTION 2.0 – BACKGROUND INFORMATION

2.1. PROJECT DESCRIPTION

In an effort to maintain existing electric power lines in high fire and wind areas in SDG&E's service territory, SDG&E proposes to replace wood poles with steel poles and install new steel poles along the approximately 14-mile expanse of TL 637 from the existing Creelman Substation to the existing Santa Ysabel Substation. TL 637 is a 69-kilovolt (kV), mostly single-circuit power line located in the unincorporated communities of Ramona and Santa Ysabel within San Diego County, California. TL 637 traverses a large expanse of densely vegetated and fire-prone areas on private and public lands, including lands owned by the County of San Diego, Bureau of Land Management (BLM), and Cleveland National Forest (CNF). Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability as well as decreasing routine maintenance needs and increasing the lifespan of both the poles themselves and the entire line.

Specifically, SDG&E is proposing the following:

- Replacement of approximately 156 wood power and interset distribution structures with approximately 156 weathering steel structures. Of the 156 replacement structures, approximately 69 will be directly-embedded, and approximately 87 will be micropile foundations.
- Approximately 16 small sections of new underground distribution line.
- Removal of approximately eight wood structures.
- Pole top work at approximately three structures.
- Topping one pole above communication.
- Installation of fiber-optic cable on the entire line. Undergrounding of fiber-optic cable at the Santa Ysabel and Creelman substations, including anchor installation for one pole at Santa Ysabel.
- Relocation of approximately 1,170 feet of conductor.
- Reconductoring of the entire line from 3/0 ACSR/AW to 636 ACSS/AW conductor.
- Utilization of approximately 22 stringing sites.
- Installation of approximately 10 temporary guard structures.
- Use of approximately six staging yards/helicopter landing zones.

The proposed project is consistent with SDG&E's efforts to improve reliability and reduce fire risks in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line in high-risk fire areas according to the existing vegetation/fuel conditions, the history of high-speed winds, and age and condition of the existing infrastructure as part of a strategy to strengthen power lines connecting backcountry substations for improved reliability.

SDG&E periodically reviews and updates the prioritization of poles to be replaced due to changes in field conditions, e.g., increased density of vegetation (fire fuel) in the vicinity of poles. The project incorporates updated design standards to reduce fire risks and will implement a project-specific fire plan to minimize fire risks during construction.

During the evaluation process, TL 637 met the criteria for immediate replacement based on the above factors. Specifically, these factors include: (1) a designation of Very High Fire Threat, as indicated on SDG&E's 2012 Fire Threat Zone map, and (2) a record of very high winds. The proposed project will result in the strengthening of TL 637 in the high-fire threat area, which will reduce the risk of potential fire hazard impacts under certain atmospheric conditions.

Additional benefits of the proposed project include reduction of outage potential, improved contamination resistance, reduction of facility maintenance, maximization of equipment life span potential, installation of fiber-optic cable for enhanced digital protective relay systems, and improved avian protection.

2.2. PROJECT AREA

The project area includes approximately 14 linear miles of power line and includes the associated access roads and work areas. TL 637 traverses a large expanse of densely vegetated and fire-prone areas on public and private lands, including lands owned by the BLM and CNF. This power line is located in the unincorporated communities of Ramona and Santa Ysabel within San Diego County, California (Thomas Bros. pages 1152-H4 to 1135-C3). The project area extends into two United States Geological Survey (USGS) 7.5-minute quadrangles: *Santa Ysabel* and *Ramona*.

Chambers Group was contracted to conduct biological surveys over all of the systems upgrades, access roads, and off right-of-way (ROW) work spaces within and around the CNF to apply for a 50-Year Master Special Use Permit (MSUP). Possible impacts could occur along the existing electricity power lines, designated access roads, and other appurtenant facilities. The TMs surveyed included 637, 682, 629, 6926 (626), 625, and 6923. The circuits surveyed were 78, 79, 157, 449, 440, and 442. It was determined that TL 637, which hosted only two poles within CNF boundaries, be separated from the CNF MSUP project. Therefore, the results of biological surveys regarding TL 637 will be discussed separately in this biological technical report.

The areas surveyed (Survey Area) consisted of a 150-foot buffer around the pole centerline, which was extended to a 250-foot radius around each pole where the overhead line makes an angle greater than 2 degrees. The additional buffer was surveyed to include potential additional work space that is typically required during operation and maintenance work at angle points within the overhead lines. Appendix B contains the TL 637 Figures (Project Location Map; CNDDDB and Critical Habitats Map; Critical Habitats, Preserve Areas, and Sensitive Species Map; Vegetation Communities Map; Land Ownership Map; and Soils Survey Map).

2.3. PROJECT COMPONENTS

The existing wooden poles will be replaced with new weathering steel-wood equivalent, directly-embedded, tubular light-duty and heavy-duty steel poles and engineered steel poles with micropile foundations. Construction-related activities associated with the TL 637 project include replacing approximately 156 wood poles; removing eight wooden poles from service; topping one wooden pole

above communication; pole-top work at three poles; installing 10 temporary wooden guard structures; installing seven temporary wooden shoe-fly poles to facilitate the installation of new steel poles in a same-hole set alignment; re-establishing existing access roads; and accessing 22 stringing sites, two helicopter landing zones (HLZ), and four staging yards; as well as reconductoring the entire line; and installing fiber-optic cable along the entire line. Once the new poles have been installed, a mechanical pulling machine (powered dolly) and/or helicopter will be used to facilitate the installation of new conductors. Wherever possible, activities will occur within existing paved or unpaved access roads or other previously disturbed areas.

2.3.1 Staging Yards

The Warnock Staging Yard is approximately 258,311 square feet (sq. ft.) (5.93 acres). The site is located at the corner of Keyser Road and Warnock Road in the unincorporated community of Ramona and can be accessed via either road. Staging yards are necessary for storing and preparing materials and personnel for project activities.

The Creelman Staging Yard is approximately 43,560 sq. ft. (1 acre). This site is located on SDG&E-owned land at the corner of Creelman Lane and Ashley Road in the unincorporated community of Ramona and can be accessed via Ashley Road.

The Woodlot Staging Yard is approximately 27,000 sq. ft. (0.62 acre). This site is located in a cleared storage lot off an access road. It can be accessed by either of two existing private roads from California State Route Highway (Hwy) 78 in the unincorporated community of Santa Ysabel.

The Santa Ysabel Staging Yard is located on Grutly Street in the unincorporated community of Santa Ysabel and can be accessed via Washington Street from Hwy 78. The Santa Ysabel Staging Yard is divided into two areas by an unpaved private road. The total area is approximately 283,140 sq. ft. (6.5 acres). The largest area is located east of the private unpaved road leading off Grutly Street and is approximately 226,512 sq. ft. (5.2 acres). The smaller area is west of the private unpaved road and is approximately 56,628 sq. ft. (1.3 acres).

All staging yards may also be used as helicopter landing zones, if necessary.

2.3.2 Helicopter Landing Zone

The Mt. Gower HLZ is approximately 75 feet by 75 feet, or approximately 5,625 sq. ft. (0.13 acre). Helicopter landing zones are necessary to facilitate the placement of poles with limited access via helicopter. This site is located in the unpaved parking area for the Mt. Gower Preserve and is accessible from Gunn Stage Road.

The Littlepage Road HLZ is approximately 200 feet by 200 feet, or approximately 40,000 sq. ft. (0.92 acre). This site is located northeast of pole P98 and is accessible from the existing access road.

2.3.3 Stringing Sites

To facilitate the reconductoring of the TL, 22 stringing sites of various dimensions will be utilized. Stringing sites, where feasible, will be confined to previously disturbed areas within the ROW and along Project access roads. The Project will require use of 22 stringing sites that will temporarily impact

approximately 247,200 sq. ft. (5.67 acres) of habitat. Vehicles, equipment, and personnel will remain within the SDG&E ROW, existing paved or unpaved access roads, or previously disturbed areas to the extent possible.

- Stringing Site 1 is located adjacent to Creelman Substation. Stringing Site 1 will temporarily impact approximately 4500 sq. ft. and will be accessed via Creelman Lane and is located in the unincorporated community of Ramona.
- Stringing Site 2 is located adjacent to pole P3. Stringing Site 2 will temporarily impact approximately 6000 sq. ft. and will be accessed via Creelman Lane in the unincorporated community of Ramona.
- Stringing Site 3 is located adjacent to pole P2. Stringing Site 3 will temporarily impact approximately 6000 sq. ft. and will be accessed via Creelman Lane in the unincorporated community of Ramona.
- Stringing Site 4 is located adjacent to pole P25. Stringing Site 4 will temporarily impact approximately 2,100 sq. ft., and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 5 is located adjacent to pole P29. Stringing Site 5 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 6 is located adjacent to pole P47. Stringing Site 6 will temporarily impact approximately 16,500 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 7 is located adjacent to pole P47. Stringing Site 7 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 8 is located adjacent to pole P51. Stringing Site 8 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 9 is located adjacent to pole P64. Stringing Site 9 will temporarily impact approximately 7,500 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 10 is located adjacent to pole P64. Stringing Site 10 will temporarily impact approximately 11,250 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 11 is located adjacent to pole P65. Stringing Site 11 will temporarily impact approximately 12,000 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 12 is located adjacent to pole P83. Stringing Site 12 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 13 is located adjacent to pole P84. Stringing Site 13 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.

- Stringing Site 14 is located adjacent to pole P100. Stringing Site 14 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 15 is located adjacent to pole P100. Stringing Site 15 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads in the unincorporated community of Ramona.
- Stringing Site 16 is located adjacent to pole P114. Stringing Site 16 will temporarily impact approximately 22,500 sq. ft. and will be accessed via West Side Rd a county road located in the unincorporated community of Santa Ysabel.
- Stringing Site 17 is located between poles P122 and P123. Stringing Site 17 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads located in the unincorporated community of Santa Ysabel.
- Stringing Site 18 is located adjacent to pole P145. Stringing Site 18 will temporarily impact approximately 2,100 sq. ft. and will be accessed via existing SDG&E access roads located in the unincorporated community of Santa Ysabel.
- Stringing Site 19 is located adjacent to pole P146. Stringing Site 19 will temporarily impact approximately 11,250 sq. ft. and will be accessed via existing SDG&E access roads located in the unincorporated community of Santa Ysabel.
- Stringing Site 20 is located adjacent to pole P151. Stringing Site 20 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing access roads located in the unincorporated community of Santa Ysabel.
- Stringing Site 21 is located adjacent to pole P151. Stringing Site 21 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing access roads located in the unincorporated community of Santa Ysabel.
- Stringing Site 22 is located adjacent to pole P163 inside the Santa Ysabel Substation. Stringing Site 22 will temporarily impact approximately 22,500 sq. ft. and will be accessed via existing access roads located in the unincorporated community of Santa Ysabel.

2.3.4 Fiber Optic Cable

Fiber-optic cable (FOC) will be installed using a mechanical pulling machine (powered dolly) and/or helicopter along the entire length of the TL. Installation of the FOC will require trenching from pole P2 into the Creelman Substation, and from pole D182 into the Santa Ysabel Substation.

2.3.5 Guard Structures

Temporary guard structure installation will occur in locations within the 14-mile project alignment where stringing work will cross existing facilities such as other utilities, and roadways to assure minimum clearances are maintained while conductors are being pulled. Different types of guard structures may be used, depending on the site conditions. Often, bucket trucks are utilized as guard structures during stringing activities. Where wooden poles are used as guard structures, installation requires the temporary use of approximately 36 square feet of area for a single-pole guard structure and approximately 72 square feet of area for an h-frame guard structure. The temporary work area is located in the immediate vicinity of the guard structure location. No permanent impacts would result

from the utilization of guard structures. Approximately 10 wooden guard structures will be utilized on the project at locations where the TL crosses public roads. The guard structures are necessary to provide for safety while conductor is pulled through the line.

2.4. ACCESS

TL 637 project-related activities will remain within the existing SDG&E ROW easements wherever feasible. Most sites/pole locations are accessible by vehicle on unpaved SDG&E-maintained access roads or by overland travel. Other areas without road access will be accessed via footpaths, and poles will be set by helicopter. Road re-establishment and/or vegetation clearing may be necessary to improve some existing access roads and to re-establish unmaintained access roads. No new access roads are anticipated to be established. Vehicles will remain within existing access roads, previously disturbed areas, and designated temporary work areas whenever feasible. Seven footpaths are required to access poles that are not accessible by road. Six existing wooden poles will require footpaths that will be no greater than 4 feet wide. One footpath is an existing trail.

2.5. CONSTRUCTION METHODS

Three distinct types of poles will be used for the project: direct-embedded SW light-duty and direct-embedded SW heavy-duty steel weatherized poles and engineered steel weatherized poles used with micropile foundations. Work areas for each type of pole will vary but will be confined to the previously disturbed areas around the base of the existing poles to the extent possible in order to provide a safe and adequate workspace.

2.5.1 Directly-Embedded Steel Poles

Directly-embedded steel poles are light-duty and heavy-duty direct-embedded, weathering steel poles that are secured using a concrete backfill. The poles will range in heights above grade from approximately 43 to 79 feet. The diameter of the pole at ground level is approximately 30 inches for light-duty steel poles and approximately 42 inches for heavy-duty steel poles. The poles will be directly-embedded at a depth of approximately 7 to 16 feet as necessary for installation. Light-duty steel poles will be used at 29 locations, and heavy-duty steel poles will be used at 40 locations.

2.5.2 Micropile Foundation Poles

Micropile foundation poles are heavy-duty, engineered steel poles installed using a micropile foundation, which uses a series of level work platforms from which small micropiles (or small, individual foundations) are installed. The poles will have a height above grade of approximately 55 to 110 feet. A steel cap and micropile anchor bolt ring are installed above the micropile foundation to act as the base foundation for an engineered steel pole. The combined dimensions of the micropile foundation and pole are expected to average 7 feet in diameter at ground level (and not have a diameter greater than 8 feet).

2.5.3 Steel Replacement Poles

Replacement poles will be located as close as possible to the existing poles, usually within 6 to 8 feet; and installation of the new steel poles will require excavating the pole holes using either a truck-mounted auger or drill rig, or by hand with the aid of a hand jack powered by an air compressor.

Excavated soil will be placed in a spoil pile adjacent to each hole. In locations where poles are moved further than eight feet, two temporary work areas will be required, one for the removal of the old pole and one for the installation of the new pole. Spoil boxes may be used to store spoils at sites that are located on steep or uneven terrain. Plywood boards or visqueen covers will be used to cover the excavated holes until pole installation activities begin. New poles will be installed by line truck or by helicopter. Excess spoils generated from project activities will be dispersed around the bases of the poles within the allotted temporary work areas and/or evenly distributed on the existing access roads and properly compacted. In the event that the soil cannot be spread and adequately contoured or compacted onto the existing access roads, crews will remove the excess soil from the project site. The appropriate Best Management Practices (BMPs) will be used before, during, and after project-related construction activities where necessary to prevent offsite sedimentation. Bucket trucks will be utilized to remove conductor and cross-arms from old poles. Wood poles will be removed by cutting the poles into sections or removed completely by use of a hydraulic jack and line truck. The old pole butts will be completely removed, and the holes will be backfilled with spoils.

2.5.4 Wood Pole Removal

Wood pole removal activities will utilize boom and bucket trucks and a helicopter to remove cross arms, conductors, and poles. Associated hardware, including anchors and old wood poles will be recycled and/or disposed of at an approved offsite location.

2.5.5 Anchors

Two 24-inch temporary anchors and one 20-inch temporary anchor shall be installed on the TL for the purpose of facilitating the installation of temporary shoe-fly poles. Temporary sled and block anchors will be installed at five locations by poles P51, P65, P150, and P151. Each sled and block measures 6.5 feet by 10 feet. New design standards for poles eliminate the need for placement of permanent new anchors. Existing anchors will be removed and backfilled with native soil.

SECTION 3.0 – REGULATORY SETTINGS

3.1. FEDERAL

3.1.1 Bureau of Land Management Sensitive Species

BLM Sensitive Species (BLMS) are species that are not federally listed that occur on BLM public lands, where BLM “has the capability to significantly affect the conservation status of the species through management.” BLM’s policy is to “ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered.” BLM offices maintain a list of special status plant and wildlife species specific to BLM management activities. This report includes an analysis of BLMS for those work locations that are located on BLM land, since the project cannot lead to a trend toward listing of loss or viability.

3.1.2 Clean Water Act of 1977 (Public Law 95-217)

The Clean Water Act (CWA) governs discharge or dredge of materials in the waters of the United States, and it governs pollution control and water quality of waterways throughout the United States. Its intent, in part, is to restore and maintain the biological integrity of the nation’s waters. The goals and standards of the CWA are enforced through permit provisions.

Pursuant to Section 404 of the CWA, the United States Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. Waters of the United States include navigable waterways and wetlands adjacent to navigable waterways, and non-navigable waterways and wetlands adjacent to non-navigable waters that are contiguous with navigable waterways. The term “waters of the United States” is defined by 33 Code of Federal Regulations (CFR) Part 328 and currently includes (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters (e.g., lakes, rivers, intermittent streams) that could affect interstate or foreign commerce, (4) all impoundments of waters mentioned above, (5) all tributaries to waters mentioned above, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned above.

Wetlands are defined by 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions.” In the absence of wetlands, the limits of USACE jurisdiction in nontidal waters, including intermittent Relatively Permanent Water (RPW) streams, extend to the Ordinary High Water Mark (OHWM) which is defined by 33 CFR 328.3(e) as: *“...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”* On January 9, 2001, the United States Supreme Court ruled (in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*) that the USACE jurisdiction does not extend to “isolated, non-navigable, intra-state waters or wetlands,” including but not limited to isolated ponds, reservoirs, and wetlands. A joint guidance by the United States Environmental Protection Agency (USEPA) and USACE was issued on June 5, 2007, regarding the Court's decision on the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208 (2006)) (“*Rapanos*”), to clarify circumstances where a CWA Section 404 permit would be required before conducting activities in wetlands, tributaries, and other waters.

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the CWA. The State Water Resources Control Board (SWRCB) and the local RWQCB are the relevant permitting agencies. Waters of the State determined to be jurisdictional as surface and/or ground waters, if impacted, would require a 401 Certification if an USACE 404 permit is required. Limits of jurisdiction include wetland boundaries and the OHWMs of traditional navigable waters (TNWs), relatively permanent waters (RPWs), and non-RPWs.

3.1.3 Federal Endangered Species Act of 1973

The Federal Endangered Species Act of 1973 (ESA) protects endangered and threatened species by prohibiting Federal actions that would jeopardize the continued existence of such species or result in the destruction or adverse modification of habitat of such species. Section 9 of ESA prohibits the “take” of endangered wildlife, where take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR Section 17.3). For plants, this includes removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538).

Under Section 7(a)(2) of the ESA, federal agencies must consult with federal resource agencies (i.e., USFWS) if listed species, “proposed” and “candidate” species, and/or critical habitat could be impacted by proposed project activity. USFWS then would prepare a Biological Opinion (BO) on how the action would affect the species and/or its critical habitat and would suggest reasonable and prudent measures or alternatives to minimize take of a listed species, avoid jeopardizing the continued existence of the species, or avoid adversely modifying its critical habitat.

3.1.4 Forest Service Sensitive Species

Forest Service Sensitive (FSS) species are plant and animal species identified by a Regional Forester for which population viability is a concern (FSM 2670.5). This report includes an analysis of forest sensitive species for those work locations that are located on Forest Service land, since the project cannot lead to a trend toward listing of loss or viability.

3.1.5 Migratory Bird Treaty Act, as Amended (16 USC 703-711)

The Migratory Bird Treaty Act (MBTA), as amended, provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. USFWS determined it was illegal under the MBTA to directly kill, or destroy an active nest (nest with eggs or nestlings), of nearly any bird species (with the exception of non-native species through the MBTA Reform Act of 2004). Certain game bird species are allowed to be hunted for specific periods determined by Federal and State governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey.

3.1.6 Bald and Golden Eagle Protection Act, as Amended (16 USC. 668-668c)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended, provides legal protection to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) in addition to protection afforded under the MBTA. The BGEPA prohibits the “take” (to pursue, shoot, shoot at, wound, kill,

capture, trap, collect, molest, or disturb) of bald and golden eagles including their nests, eggs, or parts. “Disturbance” of bald and golden eagles is also prohibited under the BGEPA, and “disturbance” relates to injuries to bald or golden eagles or a disruption to life cycles, productivity, and/or substantial interference of normal bald and golden eagle behavior. The BGEPA also extends to potential impacts to bald and golden eagles caused by human-induced environmental changes near a previously used nest when the eagles are not present.

3.2. STATE

3.2.1 California Endangered Species Act (California Fish and Wildlife Code Sections 2050-2116)

The California Endangered Species Act (CESA) parallels the Federal ESA. As a responsible agency, CDFW has regulatory authority over species State listed as endangered and threatened. The State legislature encourages cooperative and simultaneous findings between State and Federal agencies. Consultation with CDFW is required for projects with the potential to affect listed or candidate species. CDFW would determine whether a reasonable alternative would be required for the conservation of the species. CESA prohibits the “take” of these species unless an incidental take permit is granted. Under California Fish and Wildlife Code Section 2081 (Incidental Take Permit), CDFW can authorize the “take” of a listed species (with exception to fully protected species) if the “take” of the listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA. Section 2080.1 allows for “take” once an applicant obtains a Federal Incidental Take Permit which can be approved (Consistency Determination letter) within 30 days by the CDFW Director. If the Federal Incidental Take Statement is determined not to be consistent with CESA, then application for a State Incidental Take Permit (2081) is required.

The California Fish and Wildlife Code outlines protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are “fully protected” (FP) may not be taken or possessed at any time. CDFW has designated certain species native to California as Species of Special Concern to “focus attention on animals at conservation risk by the Department, other State, Local and Federal governmental entities, regulators, land managers, planners, consulting biologists, and others; stimulate research on poorly known species; achieve conservation and recovery of these animals before they meet CESA criteria for listing as threatened or endangered.”

3.2.2 State Fully Protected Species

The State of California designated species as FP prior to the creation of CESA and ESA. Lists of FP species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most FP species have since been state listed as threatened or endangered species. Under California Fish and Wildlife Code Section 4700, FP species may not be taken or possessed at any time.

In September 2011, the California Legislature sent the Governor legislation authorizing CDFW to permit the incidental take of 36 fully protected species pursuant to a Natural Community Conservation Plan (NCCP) approved by CDFW (Senate Bill 618 [Wolk]). The legislation gives FP species the same level of protection as provided under the NCCP Act for endangered and threatened species (California Fish and Wildlife Code § 2835). The NCCP Act, enacted in the 1990s, authorizes the incidental take of species “whose conservation and management” is provided for in a conservation plan approved by CDFW.

3.2.3 Sections 1600-1602 of the California Fish and Wildlife Code

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Wildlife Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” CDFW’s definition of “lake” includes “natural lakes or man-made reservoirs.” CDFW limits of jurisdiction include the maximum extents of the uppermost bank-to-bank distance or riparian vegetation dripline. CDFW jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife.

3.2.4 California Environmental Quality Act (Public Resources Code, Sections 21000-21177)

The California Environmental Quality Act (CEQA) requires that State and Local agencies consider environmental consequences and project alternatives before a decision is made to implement a project requiring State or Local government approval, financing, or participation by the State of California. In addition, CEQA requires the identification of ways to avoid or reduce environmental degradation or prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

3.2.5 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 directed CDFW to “preserve, protect and enhance rare and endangered plants in this State.” CDFW “requires a CESA Section 2081 (a) permit for take of candidate or listed threatened and endangered plants for scientific, educational, or management purposes, and a CESA Section 2081 (b) permit for incidental take of listed threatened and endangered plants from all activities, except those specifically authorized by the NPPA.” The California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California was referenced in the literature review of the proposed project.

3.2.6 Porter-Cologne Water Quality Control Act of 1966 (California Water Code §§ 13000-13999.10)

This act mandates that activities that may affect waters of the State shall be regulated to attain the highest quality. The SWRCB and the local Regional Water Quality Control Board (RWQCB) are the relevant permitting agencies. RWQCB provides regulations for a “non-degradation policy” that are especially protective of waters with high quality. Porter–Cologne reserves the right for the State of California to regulate activities that could affect the quantity and/or quality of surface and/or ground waters, including isolated wetlands, within the State. Waters of the State include isolated waters that are no longer regulated by USACE. If the project is proposed to discharge into waters of the State, a Waste Discharge Report (WDR) must be filed.

3.3. LOCAL

3.3.1 County of San Diego

The *County of San Diego General Plan* provides direction for future growth in the unincorporated areas of San Diego County, and provides policies related to land use, mobility, conservation, housing, safety, and noise. The *County of San Diego General Plan Land Use Element* provides a framework for managing future development in the County so that it is thoughtful of the existing character of the current communities and the sensitive natural resources within the County.

The *County of San Diego General Plan* contains the following relevant policies:

Conservation and Open Space (COS) Policy COS-1.2: Minimize Impacts. Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.

Conservation and Open Space Policy COS-1.3: Management. Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

3.3.2 Communities of Ramona and Santa Ysabel

The *Ramona Community Plan* (2010) provides guidance for the community of Ramona and the surrounding area. The *Ramona Community Plan* is a portion of the *San Diego County General Plan* that provides goals and policies for the community. The goals and policies were decided based on analysis by the Ramona Community Planning Group.

The *Ramona Community Plan* contains the following relevant policies and goals:

Conservation and Open Space Policy – COS 1.1.2 Protect raw land from grading or other disturbances prior to approval and permit process.

Conservation and Open Space Policy – COS 1.1.8 Conserve functional wildlife and plant habitats, particularly those supporting rare or endangered species. These areas have been mapped as RCAs on the Ramona Resource Conservation Map.

Conservation and Open Space Policy – COS 1.1.9 Encourage the conservation of riparian brush and woodland areas and significant wildlife habitat.

Conservation and Open Space Policy – COS 1.1.11 Require the use of native seed mixes wherever feasible for the revegetation of cleared areas, provided that the use of native brush does not pose a fire hazard.

Conservation and Open Space Policy – COS 1.1.12 Discourage severe grading and encourage the preservation of native brush.

3.3.3 Central Mountain Subregional Plan

The *Central Mountain Subregional Plan* (2011) provides guidance to the communities of Cuyamaca, Descanso, Guatay, Mount Laguna, and Pine Valley, and covers an area of approximately 203,000 acres. The *Central Mountain Subregional Plan* is a portion of the *San Diego County General Plan* that provides goals and policies for that area of the county.

The *Central Mountain Subregional Plan* contains the following relevant goals and policies:

Conservation Goal 1: The careful management of environmental resources in the plan area that prevents wasteful exploitation or degradation of those resources, and preserves them for future generations.

Vegetation and Wildlife Policy 2: In chaparral, clearing of brush shall be limited to that required for fire protection.

Vegetation and Wildlife Policy 4: Cumulative effects of habitat disturbance should be addressed during evaluation of environmental impacts of development projects.

Vegetation and Wildlife Policy 7: For any project requiring environmental review, biological studies will be required that specifically address wildlife movement corridors and areas of wildlife concentration whenever applicable.

Vegetation and Wildlife Policy 11: Biological studies shall be required for discretionary permits when deemed necessary by County environmental review staff. These studies shall specifically address, but not be limited to, the identification of endangered, threatened, and sensitive species.

Vegetation and Wildlife Policy 12: Spring surveys shall be required in areas where sensitive species are known to exist.

Vegetation and Wildlife Policy 13: Require all biological resources to be recorded on a Resources Map and biological reports to be kept for public record and use.

3.3.4 North Mountain Subregional Plan

The *North Mountain Subregional Plan* (2011) provides guidance to the communities of Santa Ysabel, Warner Springs, Palomar Mountain, Mesa Grande, Sunshine Summit, Ranchita, and Oak Grove. As noted in the community plan, a majority of the area is characterized by large areas of open space with some scattered rural residential development. The *North Mountain Subregional Plan* is a portion of the *San Diego County General Plan* that provides goals and policies for the specific communities within the planning area.

The *North Mountain Subregional Plan* contains the following relevant goals and policies:

Community Character Policy 3: Require development to provide for two replacement trees for each tree removed at appropriate locations elsewhere on the subject property.

Land Use Policy 5: Encourage preservation of areas with rare, unique, or endangered wildlife and plants.

Conservation General Goal: The careful management of the environmental resources in the subregion to prevent wasteful exploitation or degradation of those resources, and to preserve resources for future use.

Vegetation and Wildlife Goal: The preservation of the natural landscape and wildlife habitat within the subregion.

3.3.5 SDG&E Subregional Natural Community Conservation Plan

In December 1995, USFWS and CDFW approved the *SDG&E Subregional NCCP*, developed in coordination with such agencies that address potential impacts to species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, and typical expansion to those systems throughout much of SDG&E's existing service territory. As a part of the *SDG&E Subregional NCCP*, SDG&E has been issued incidental take permits (Permit PRT-809637) by USFWS and CDFW for 110 Covered Species. The *SDG&E Subregional NCCP* was developed by following the multiple species and habitat conservation planning approach. Even with the *SDG&E Subregional NCCP*, SDG&E's goal is to avoid "take" of Covered Species whenever possible and to implement measures to avoid and minimize any take to the maximum extent possible. The *SDG&E Subregional NCCP* includes avoidance and minimization measures and operational protocols that apply to construction and operations and maintenance activities. In approving the NCCP, USFWS and CDFW determined that the avoidance and minimization measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable and ensure the protection and conservation of federal and state listed species and Covered Species.

The proposed project falls within the area in which SDG&E's utility operations are governed by the *SDG&E Subregional NCCP* and the NCCP will be applied to the proposed project. As such, the NCCP fully addresses all of the potential construction and operations and maintenance impacts of the proposed project on federal and state listed species and Covered Species. The NCCP avoidance and minimization measures and operational protocols have been incorporated as part of the proposed project description.

SDG&E is a public utility regulated by the California Public Utilities Commission (CPUC). As described in the *SDG&E Subregional NCCP Implementing Agreement*, local governments are precluded from regulating public utilities through their zoning laws, land use laws, ordinances, and other police powers (including other NCCPs or Habitat Conservation Plans[HCPs]) by the exclusive jurisdiction of CPUC. Therefore, as stated in the *SDG&E Subregional NCCP Implementing Agreement*, the *SDG&E Subregional NCCP* "is independent of other NCCP/HCPs and the Covered Species for which Incidental Take is authorized under the Take Authorizations is not dependent upon the implementation of such plans."

3.3.6 North County Multiple Species Conservation Plan

The North County Multiple Species Conservation Plan (MSCP) is located in the northwest portion of San Diego County, encompassing the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Rancho Santa Fe, Lilac, Pala, Pauma Valley, Ramona, Rincon Springs, and Valley Center, among others. The North County MSCP area is governed by the County of San Diego's *North County Plan*

document, a planning document that aims to protect biodiversity and quality of life in the region by “reducing constraints on future development outside of proposed preserve areas and decreasing the costs of compliance with federal and state laws protecting biological resources” (North County Plan 2009). In order to maintain biodiversity and ecosystem health, the *North County Plan* incorporates goals including biological goals, economic goals, and social goals.

The proposed project is anticipated to occur within SDG&E’s ROW; therefore no conflicts should occur with any other conservation plans or mitigation/preservation areas. The *SDG&E Subregional NCCP* is independent of other NCCP/HCPs; and therefore is not dependent upon the implementation of such plans and is not superseded by theirs.

3.3.7 East County MSCP

The East County MSCP area is located on approximately 1.6 million acres covering the eastern half of the County of San Diego. The East County MSCP area includes the communities of Central Mountain, Cuyamaca, Descanso, Pine Valley, Borrego Springs, Julian, Mountain Empire, Jacumba, Campo, Potrero, and Tecate, among others. However, the County only has land use authority over the private parcels within this area, which includes approximately 418,930 acres. The *East County Plan* is currently being developed. This document will eventually provide guidelines for the East County MSCP. As stated above, the proposed project is anticipated to occur within SDG&E’s ROW; therefore no conflicts should occur with any other conservation plans or mitigation/preservation areas. The *SDG&E Subregional NCCP* is independent of other NCCP/HCPs; and therefore is not dependent upon the implementation of such plans and is not superseded by theirs.

3.3.8 Simon Preserve Resource Management Plan

The Simon Preserve is approximately 617 acres in size and is located from approximately 2 miles southeast of the unincorporated community of Ramona to approximately 13 miles northeast of the City of Poway. The *Simon Preserve Resource Management Plan* is a document that guides activities within the Simon Preserve in order to protect the biological and cultural resources present in the preserve. The Resource Management Plan not only catalogues the existing habitats, species, and resources within the preserve, it also guides future management of these resources and outlines operations and maintenance requirements for meeting management goals. As stated above, the proposed project is anticipated to occur within SDG&E’s ROW; therefore no conflicts should occur with any other conservation plans or mitigation/preservation areas.

3.3.9 County of San Diego Tree Ordinance

The San Diego Regulatory Code of Ordinances, Title 7, Division 1, Chapter 5 regulates the planting, trimming and removal of trees on County-owned property and County highways. However, the proposed project is anticipated to occur within SDG&E’s ROW and no conflicts should occur with any other conservation plans or County tree ordinances. SDG&E is a public utility regulated by the CPUC. Local governments are precluded from regulating public utilities through their zoning laws, land use laws, ordinances, and other police powers by the exclusive jurisdiction of CPUC.

SECTION 4.0 – METHODS

4.1. LITERATURE AND DATABASE REVIEW

Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CNDDDB 2012) and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPSEI 2012) were reviewed for the quadrangles containing and surrounding the Survey Area (i.e., *Santa Ysabel* and *Ramona* California USGS 7.5-minute quadrangles); a 3 mile radius surrounding the proposed project ROW was reviewed. CNDDDB contains records of reported occurrences of federal or state listed species, proposed endangered or threatened species, Federal Birds of Conservation Concern, California Species of Special Concern (SSC), or otherwise sensitive species or habitats that may occur within or in the vicinity of the Survey Area.

Chambers Group collected general field reconnaissance data throughout the period from April through September 2010. Field data were recorded during sensitive plant and wildlife surveys. Focused plant surveys were conducted between April and September 2010 to cover the blooming periods of the sensitive annual plant species (perennial shrub species could be observed throughout the year). Focused wildlife surveys were conducted between May and September 2010. Additional surveys along TL 637 were conducted in 2011 on May 2, July 11 through 15, and November 8 and in 2012 on February 3, 7, 13, and 23 during Pre-activity Surveys; and from July 11 through 19, 2011, during the Jurisdictional Delineation Survey.

The focused wildlife and plant surveys conducted were in support of the CNF Master Services Use Project; therefore, the species for which focused surveys were conducted were targeted for United States Forest Service (USFS) listed species. The species surveyed for were determined under the direction of USFS and did not include all federal and/or state listed sensitive species; however, through discussions with SDG&E, the decision to survey for non-USFS species (including non-USFS Sensitive CNPS List 1B.1 plants) was approved in the event specific TLs would not be included in the CNF MSUP Project. Therefore, the majority of species discussed in this report have been directly targeted and surveyed for.

4.1.1 Vegetation

All plant species observed within the Survey Area were noted. Plant communities within the Survey Area were identified, qualitatively described, and mapped onto aerial photographs. The mapped plant communities were digitized in Geographic Information System (GIS), and acreages were calculated based on the vegetation types within the survey buffer. Plant communities were determined in accordance with the categories set forth in Holland (1986) or Gray and Bramlet (1992). Plant nomenclature follows that of *The Jepson Manual: Higher Plants of California* (Hickman 1993). The sensitive plants with a potential to occur within the Survey Area are described in Section 5.3.

4.1.2 Wildlife

All wildlife observed and wildlife sign detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded and are included as Appendix F. Additional survey time was spent in those habitats most likely to be utilized by wildlife (e.g., undisturbed native habitat, wildlife trails) or in habitats with the potential to support state and/or federally listed or proposed listed species. Notes

were made on the general habitat types, species observed, and the conditions of the site. The sensitive wildlife species with a potential to occur within the Survey Area are described in Section 5.4.

4.1.3 Special Status Species

The following information is a list of abbreviations used to help determine the significance of biologically sensitive resources potentially occurring within the Survey Area.

Federal

FE	=	Federally listed; Endangered
FT	=	Federally listed; Threatened
FC	=	Federal Candidate Species
FCC	=	Former Federal Species of Concern
BCC	=	Birds of Conservation Concern
FSS	=	Forest Service Sensitive
BLMS	=	Bureau of Land Management Sensitive

State

ST	=	State listed; Threatened
SE	=	State listed; Endangered
RARE	=	State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
SSC	=	State Species of Special Concern
FP	=	State Fully Protected
WL	=	California Watch List Species

California Rare Plant Rank (CRPR)

List 1A	=	Plants presumed extinct in California.
List 1B	=	Plants Rare and Endangered in California and throughout their range.
List 2	=	Plants Rare, Threatened, or Endangered in California but more common elsewhere in their range.
List 3	=	Plants about which we need more information; a review list.
List 4	=	Plants of limited distribution; a watch list.

CRPR Extensions

0.1	=	Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
0.2	=	Fairly endangered in California (20 to 80 percent occurrences threatened).
0.3	=	Not very endangered in California (less than 20 percent of occurrences threatened).

Table 1.
Criteria for Evaluating Sensitive Wildlife Species Potential for Occurrence (PFO)

PFO	CRITERIA
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the project site.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 3 miles) of the project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the project site (approximately 3 miles) and marginal habitat exists on the project site, or the habitat requirements or environmental conditions associated with the species occur within the project site, but no historical records exist within 3 miles of the project site.
High:	Both a historical record exists of the species within the project site or its immediate vicinity (approximately 3 miles), and the habitat requirements and environmental conditions associated with the species occur within the project site.
Present:	Species was detected within the project site at the time of the survey.

4.2. FOCUSED PLANT SURVEYS

Due to the presence of environmental conditions suitable for multiple sensitive plant species to occur within the Survey Area, a series of focused rare plant surveys for specific target species was completed according to the guidelines set forth by CNPS (CNPS 2001). Three separate surveys were conducted within the Survey Area to capture the blooming periods for each of the 16 targeted species with a potential to occur onsite. Sensitive plant species with a potential for occurrence onsite that were targeted during the surveys include:

- San Diego thornmint (*Acanthomintha ilicifolia*)
- San Bernardino aster (*Symphyotrichum defoliatum*)
- San Diego milk-vetch (*Astragalus oocarpus*)
- Orcutt's brodiaea (*Brodiaea orcuttii*)
- Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*)
- long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)
- delicate clarkia (*Clarkia delicata*)
- San Diego gumplant (*Grindelia hallii*)
- Ramona horkelia (*Horkelia truncata*)
- spreading navarretia (*Navarretia fossalis*)
- felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*)
- southern skullcap (*Scutellaria bolanderi* ssp. *austromontana*)

- purple stemodia (*Stemodia durantifolia*)
- Parry's tetracoccus (*Tetracoccus dioicus*)
- velvety false-lupine (*Thermopsis californica* var. *semota*)

Focused rare plant surveys for these target species were performed in accordance with survey protocols set forth by CDFW, CNPS, and USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. Species identified as being sensitive and having the potential to occur along the survey routes were reviewed by Chambers Group botanists prior to starting surveys each day. Botanists walked within the Survey Area approximately 30 feet (9 meters [m]) apart and visually surveyed for any signs of the targeted plant species. A complete inventory of all plant species observed within the Survey Area was prepared. Sensitive plant species observed during the survey were documented by counting individuals or estimating numbers for larger populations, characterizing the approximate population size, and recording a Global Positioning System (GPS) location. Comprehensive results of these surveys were presented in the *Rare Plant Survey Draft Report for the San Diego Gas & Electric Company Cleveland National Forest Master Services Permit Project San Diego County, California* prepared by Chambers Group (2011k).

Areas that were designated as private property separated by fences and signs were avoided unless specific permission to enter was granted by the landowner. The first round of spring surveys commenced on April 20, 2010, and concluded June 4, 2010. The second round of surveys commenced on June 7, 2010, and concluded on June 30, 2010. The third round of surveys commenced on August 2, 2010; continued through August 17, 2010; recessed for two weeks; and resumed from September 7, 2010, through September 15, 2010.

4.2.1 Weather Conditions for 2010

Precipitation in 2010 was above the annual average for San Diego County (Table 2). The increased precipitation did not halt the plant or wildlife surveys or hinder access to TLs and circuits; however, the above-average precipitation for the year did prolong the survey periods.

Table 2.
Weather Conditions of San Diego County (April-September 2010)

Month	Total Precipitation	Weather Conditions & Storm Events
April	1.74 inches	Rainfall
	11.00 inches	Snowfall occurred in eastern San Diego County at elevations above 2,500 feet
May	none	No storm events. Below average temperatures.
June	none	No storm events. Below average temperatures.
August	none	No storm events. Above average temperatures.
September	none	No storm events. Average temperatures.

Abiotic Factors

Additional abiotic factors may have played a significant role in the change in population size of rare plants and the locations where they were found and a change in the distribution of sensitive wildlife species. Species may have been impacted by factors such as: below average seasonal temperatures, recent and or past wildfires, an increase in soil salinity due to recent road re-establishment, and soil erosion.

4.3. FOCUSED SENSITIVE WILDLIFE SURVEYS

4.3.1 Quino Checkerspot Butterfly (*Euphydryas editha quino*; QCB)

Habitat Assessment

The purpose of the QCB habitat assessment was to determine the degree and nature of gross vegetation cover in order to assess potential for QCB occurrence in the project area. QCB colonies are primarily associated with low elevation (sea level to 3,000 feet) open grasslands, vernal pools, and sunny openings within chaparral, coastal-sage scrub, and juniper woodland vegetation communities. Colonies are found frequently near clay soils and soils that possess cryptogamic crusts (soil infused with algae and lichen in the soil surface) (Osborne 1998). QCB distributions closely approximate the distributions of the primary larval host plant, dot-seed plantain (*Plantago erecta*), also known as dwarf plantain. Higher elevation QCB populations (Pratt et al. 2001) have been found to use woolly plantain (*Plantago patagonica*), Coulter's snapdragon (*Antirrhinum coulterianum*), bird's beak (*Cordylanthus rigidus*), and southern Chinese houses (*Collinsia concolor*) (Pratt and Pierce 2009). Purple owl's clover (*Castilleja exserta*) is also known to occasionally be used by larvae and may also represent an ovipositional substrate. Larvae may use other plantain (*Plantago*) species (e.g., *P. ovata* and *P. insularis*) as well. Introduced Mediterranean plantain species, such as *P. lanceolata* and *P. major* (common weeds of residential lawns and city lots), although suitable in the laboratory (Osborne 2009) and used by some wild *E. editha* populations in Oregon, are not likely used where they occur in habitats not frequented by QCB. Nevertheless, these exotic host plants may be of potential use to QCB where they occur in wild habitats proximal to QCB populations.

Permitted QCB biologists Michael Klein (TE-837760-6), Kris Alberts (TE-039640-2), and Paul Morrissey conducted the QCB habitat assessment in accordance with the *USFWS Quino Checkerspot Survey Protocol Information* (USFWS 2002a). The biologists surveyed the project route by helicopter, which allowed for an efficient and comprehensive aerial search of the project landscape. The helicopter flew low enough over the Survey Area to allow for visual determination of the ground cover type and vegetation density. The biologists then mapped QCB suitable and non-suitable areas of the Survey Area on aerial maps in the helicopter during the survey flight. The helicopter was determined by USFWS to be a suitable method of conducting a protocol habitat assessment. The helicopter QCB habitat assessment was then ground-truthed by a USFWS permitted QCB survey biologist on foot.

Handheld GPS units and aerial maps were used to outline portions of the Survey Area that would be surveyed during the 2010 QCB focused surveys. Information characteristic of QCB-occupied habitat, including locations of breaks in vegetation, rocky outcrops, and hilltops, were noted and mapped. Areas that were developed; contained closed-canopy, general agricultural, or non-native vegetation; or were

unsafe to access were mapped and excluded from focused surveys. The remaining habitat along the project Survey Area was deemed appropriate to survey. The following section describes methods used for conducting the focused surveys for QCB.

Methods for QCB Focused Surveys

QCB received federal protection under the Endangered Species Act in 1997 (United States Federal Register, January 17, 1997). The QCB focused surveys were conducted in accordance with protocol set forth by the *USFWS Quino Checkerspot Survey Protocol Information* (USFWS 2002a) and the *USFWS Year 2005 Quino Survey Areas*. In addition, USFWS reference material concerning reference sites, recommended survey areas, critical habitat designations, and conservation plans (USFWS 2002-2009) were reviewed before the surveys were performed. The flight season varies regionally and annually; therefore, coordination with permitted biologists was conducted to determine the beginning and end of the flight season, determined by identified QCB at known locations. If a QCB was detected at a site during the first five surveys, additional surveys were not required. If a QCB was not detected during the first five surveys, but the QCB flight season continued (as determined by conditions listed above), then additional surveys were conducted through the end of the flight season. Each survey segment was surveyed weekly at a minimum of five times during the QCB flight season. Certain segments were surveyed more than five times depending on QCB host plant conditions, nectar source availability, and whether QCB were still observed flying at nearby reference sites beyond the fifth survey. Surveys were conducted at an approximate rate of 10 to 15 acres per hour when temperatures were above 60 degrees Fahrenheit (°F) on a clear, sunny day or 70°F on an overcast or cloudy day. In the field, temperatures were measured in the shade; and warmer conditions prevailed under sunlight where butterflies are active. In addition, surveys were generally conducted between the hours of 0900 and 1600. If weather conditions were unsuitable for a survey, two surveys on nonconsecutive days were conducted during the following week. If weather conditions were unsuitable for 2 weeks in a row, two surveys were conducted on nonconsecutive days during each of the following 2 weeks.

Experienced biologists utilized binoculars, cameras, or butterfly nets for butterfly identification. If QCB were identified, the locations were recorded using handheld GPS units and mapped on aerial photographs by GIS. Plant communities and QCB host plants were also mapped. Photographs were taken of suitable QCB habitat. All butterfly species were recorded on standardized field data sheets.

Potential QCB habitat for the protocol focused surveys along the project Survey Area was conducted by USFWS permitted QCB biologist Greg Chapman (TE-075112-1). Comprehensive results of these surveys were presented in the *Quino Checkerspot Butterfly 45-Day Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* prepared by Chambers Group (2011e).

4.3.2 Coastal California Gnatcatcher (*Polioptila californica californica*; CAGN)

Habitat Assessment

The purpose of the CAGN habitat assessment was to determine the presence potential for CAGN within the proposed project Survey Area. The historic range of the CAGN extends from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego counties of California into northwestern Baja California, Mexico. This species is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea

level to 2,500 feet in elevation. Within its range, it associates strongly with California sagebrush (*Artemisia californica*) dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important to this species for the nesting and foraging include California buckwheat, white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and chaparral broom (*Baccharis sarothroides*). Chamise habitats may also support breeding pairs, especially where coastal sage scrub occurs nearby or forms a component (Bontrager 1991).

Permitted Chambers Group biologists Kris Alberts (TE-039640-2) and Paul Morrissey conducted a helicopter survey of the proposed project Survey Area to locate species-specific survey areas. CAGN habitat suitability was assessed during this helicopter flyover. All sage scrub habitat areas that intersected the Survey Area were reviewed for the presence of suitable habitat necessary for breeding. Handheld GPS units and aerial maps were used to outline portions of the Survey Area that would be surveyed during the 2010 CAGN focused surveys.

Areas classified as potential CAGN habitat were further assessed during the first round of focused surveys by CAGN permitted biologists. Observations were recorded on standardized field data sheets. Notes were made on the general vegetation types, species observed, and the potential for CAGN to occur onsite. Plant communities and associations were determined in accordance with the categories set forth in Sawyer and Keeler-Wolf (1995). Plant nomenclature follows that of *The Jepson Manual, Higher Plants of California* (Hickman 1993).

CAGN Focused Survey Methodology

All CAGN focused surveys were conducted by biologists holding the necessary federal ESA section 10(a)(1)(A) survey permit. Surveys were conducted according to the *USFWS Presence or Absence Survey Guidelines* (USFWS 1997b). Surveys were conducted below 2,500 feet in elevation within areas primarily consisting of coastal sage scrub. The majority of plant species found in sage scrub are low-growing, drought-deciduous shrubs and subshrubs, including California sagebrush, California buckwheat, and sages. Areas containing alluvial fan scrub, chaparral, grassland, or riparian habitats adjacent to or intermixed with coastal sage scrub were also surveyed. Surveys were limited to areas located within the range of this species.

Six focused surveys were conducted at least 1 week apart in areas of suitable CAGN habitat between the hours of 0600 and 1200. Periods of excessive or abnormal heat, wind, fog, or other inclement weather were avoided; and no more than 80 acres (32 hectares) were surveyed per biologist per day. Sites with deep canyons, ridge lines, steep terrain, and thick shrub cover were surveyed more slowly.

Surveys were conducted by permitted biologists slowly walking transects within suitable CAGN habitat within the Survey Area and using binoculars to achieve 100 percent visual coverage. Taped CAGN vocalizations were used only to initially locate individuals, and tapes were not used frequently or to elicit further behaviors from any CAGN present. Information was recorded on the survey methods performed, including number of acres surveyed per biologist per day, start and stop times of survey, weather conditions, survey routes delineated on maps, and how frequently taped vocalizations were used.

Data were collected on the number, approximate age, class, sex, and color band information, if any was observed. All CAGN detections (e.g., vocalization, foraging behavior, nesting behavior) were recorded using handheld GPS units and photo-documented when possible. Information on any CAGN individuals observed was recorded to document the numbers and locations of paired or unpaired territorial males,

ages and sexes of all birds observed, and nesting behavior. Comprehensive results of these surveys were presented in the *Coastal California Gnatcatcher Focused Survey Report for the San Diego Gas & Electric Company Cleveland National Forest Master Services Permit Project San Diego County, California* prepared by Chambers Group (2011c).

4.4. JURISDICTIONAL DELINEATION SURVEY

4.4.1 Literature Review

Chambers Group scientists researched available maps and documents that pertain to TL 637. The search consisted of a review of the USGS 7.5-minute topographic quadrangle containing the site (USGS 2011), the USFWS National Wetlands Inventory (NWI) maps (USFWS 2011b), the United States Department of Agriculture, National Resource Conservation Science (USDA-NRCS) Web Soil Survey and National List of Hydric Soils (USDA-NRCS 2011, respectively), and a review of aerial photographs. As prescribed by the 1987 Wetland Manual and Arid West Supplement, all available lists of hydric soils were referenced to identify any occurrence of hydric soils listed within the Survey Area. The national, state, and local hydric soils lists were used along with local soil survey maps.

4.4.2 Field Survey

Chambers Group biologists Nichole Cervin and Maya Mazon conducted the water resources survey from July 11 through July 14 and on July 18 and 19, 2011. During the survey the biologists drove and/or walked the access roads associated with TL 637. Any potential jurisdictional feature observed within a 50-foot radius of a proposed pole or facility location was recorded. This 50-foot radius survey area was determined to include permanent and temporary work areas of pole installation and removal. In the field, boundaries and dimensions of jurisdictional features were recorded on aerial photographs, sub-meter GPS units, tablet computers, and field notes. Features within the 50-foot radius survey area were investigated for the presence of drainages, including culverts, corrugated metal pipe (CMP) drains, reinforced concrete pipes (RCP), V-ditches, water bodies, riparian habitats, potential wetlands, and connectivity. The biologists noted alternatives if a proposed pole or facilities location may impact a jurisdictional water feature and whether the feature could be avoided during construction.

Potential USACE / RWQCB / CDFW jurisdictional areas were field-checked for the presence of definable channels and/or wetland vegetation, riparian habitat, soils, and hydrology. Potential wetland habitats were evaluated using the methodology set forth in the 1987 USACE Wetlands Delineation Manual (1987 Manual) and the 2008 Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region, Version 2.0 (Arid West Supplement [USACE 1987, 2008]). Features with no evidence of wetland hydrology and that supported only upland vegetation were evaluated for the upward limits of jurisdiction. Drainage widths were measured (in feet). Reference photographs were recorded.

The lateral extent of a jurisdictional drainage feature was also measured. USACE and RWQCB traditionally use the determination of the presence of a bed and bank to the upper limit of the OHWM. Under the Rapanos court decision, USACE now requires a fact-specific significant nexus analysis to be performed for dry or ephemeral washes (non-RPWs) in southern California to determine the extent of USACE jurisdiction on a given project area. Connectivity was investigated and determined through a “desktop” study by utilizing the USGS topographic maps (USGS 2011), NWI maps (USFWS 2011b), and Google Earth images (Google 2012).

Wetland data was recorded onto standardized Wetland Determination Data Forms – Arid West Region data forms. In order to formally determine the presence or absence of wetlands, upland features were also recorded onto the standardized data sheets. Sample plots were established, and recorded data included plant species with estimated percent areal coverage within each vegetation stratum (i.e., tree, sapling/shrub, herb, woody vine), soil profiles were investigated (where feasible), and evidence of hydrology. All delineation data was digitized for the precise mapping of jurisdictional areas. All data on jurisdictional determinations and wetland delineations were reproduced using GIS software and displayed on aerial maps.

4.4.3 Vegetation

Plants were categorized according to their probabilities to occur in wetlands versus nonwetlands in accordance with the categories in the *National List of Species that Occur in Wetlands* (Reed 1988). More specifically, the California Land Resource Region (Region 0) wetlands plant list was used, which is a regional adaptation of the *National List*. The wetland species categories are:

- I. **Obligate Wetland**– Occur almost always (estimated probability >99 percent) under natural conditions in wetlands.
- II. **Facultative Wetland**– Usually occur in wetlands (estimated probability 67 percent to 99 percent), but occasionally found in nonwetlands.
- III. **Facultative**– Equally likely to occur in wetlands or nonwetlands (estimated probability 34 percent to 66 percent).
- IV. **Facultative Upland**– Usually occur in nonwetlands (estimated probability 67 percent to 99 percent), but occasionally found in wetlands.
- V. **Obligate Upland**– May occur in wetlands in another region, but occur almost always (estimated probability >99 percent) under natural conditions in nonwetlands in southern California. All species not listed on the National List of Species that Occur in Wetlands (Reed 1988) are considered to be UPL.
- VI. **No Indicator**– NI is recorded for those species for which insufficient information was available to determine an indicator status.

Plant species and absolute percent covers were recorded by stratum (i.e., tree, sapling/shrub, herb, woody vine) and evaluated for dominance and prevalence according to guidelines in the 1987 Wetland Manual and Arid West Supplement. Naming conventions follow the *Jepson Manual* (Hickman 1993).

4.4.4 Soils

Soil map data for San Diego County was referenced online to determine the types of soil found on the site at (<http://soils.usda.gov/survey/geography/ssurgo/>). Soils were determined in accordance with categories set forth by the USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2011).

Soils were analyzed where feasible within the Survey Area (digging pits was not approved for Federal lands and some private lands) and were evaluated according to guidelines in the 1987 Wetland Manual and Arid West Supplement. Exposed soil layers were examined for the presence or absence of hydric soil indicators and oxidation/reduction features indicative of a history of saturated soil conditions.

4.4.5 Hydrology

Typical hydrologic indicators were observed per the 1987 Wetland Manual and Arid West Supplement guidelines. Indicators include evidence of inundation, saturation, surface water, watermarks, drift lines, sediment deposits, destruction of vegetation, water-stained leaves, surface soil cracks, biotic crust, aquatic invertebrates, and oxidized rhizospheres along living roots, and the presence or oxidation/reduction features in the soil, among several others.

Consideration of the climate and flow frequency was given when observing watermarks and drift lines. For the purpose of determining hydrologic connectivity to a TNW, aerial photos, National Wetland Inventory maps, and USGS quads were referenced, and all features were inspected in the field on and offsite for true connectivity.

4.5. IMPACT DETERMINATION

Potential impacts associated with the proposed construction for TL 637 include temporary and permanent impacts to biological resources. These impacts can be further classified into direct and indirect impacts. Direct temporary impacts include those associated with the use of vehicles and helicopters during construction, such as the potential displacement of nesting areas or foraging from the loss of food sources. Indirect temporary impacts can be classified as temporary effects including noise, light, and vibrations that occur only in close proximity during construction activities. Direct permanent impacts include those that require permanent vegetation removal that cannot be restored as a result of the installation of a structure. Indirect permanent impacts include effects from a surrounding influence such permanent light source or invasive species that may enter the project area as a result of a new access road. Potential impacts for this project were assessed by proposed construction activities and include: the area required for pole removal, the type of pole installed, anchors, the workspace required, access to the pole (including foot paths), and the use of staging yards, stringing sites, and guard structures.

SECTION 5.0 – RESULTS AND DISCUSSION

5.1. ECOSYSTEMS

The proposed project passes through several ecosystems or eco-regions, including foothills and the central valley regions of San Diego County. The Survey Area supports a variety of vegetation communities totaling approximately 558.17 acres (this calculation does not include paved roads). General vegetation communities (as described by on Holland (1986) or Gray and Bramlet (1992)) observed during the surveys include Mixed Oak Woodland, Southern Riparian Forest, Oak Savanna, Chaparral, Southern Mixed Chaparral, Mixed Chaparral/Coastal Sage Scrub, Diegan Coastal Sage Scrub, Freshwater Seep/Open Water, Grassland, Pastureland/Cultivated Agriculture, Urban and Developed/Ornamental Landscaping, and Disturbed. Vegetation communities observed within the survey areas and the plants that typically occur within those communities are described below. Plant species observed during the surveys are included as Appendix C. The total vegetation acreages within the Survey Area are presented in Table 3 below.

Table 3.
Vegetation Communities

Vegetation Communities (with associated NCCP vegetation community classification)	Acreage
Agriculture	7.37
Chaparral	26.05
Diegan Coastal Sage Scrub Buckwheat Scrub Coastal Sage Scrub	37.29
Disturbed Wetland	4.10
Disturbed Bare Ground	30.37
Freshwater Seep/Open Water Freshwater Marsh Meadow/Seep	1.31
Grassland (Includes Non-Native Grassland)	186.51
Mixed Oak Woodland Coast Live Oak Forest Open/Dense Engelmann Oak Woodland	10.98
Oak Savanna Open Oak Woodlands	83.21
Southern Mixed Chaparral	72.77
Southern Mixed Chaparral/Coastal Sage Scrub Coastal Sage Scrub/Chaparral Mix	15.62
Southern Riparian Forest Riparian Forests	3.74
Urban and Developed/Ornamental Landscaping Landscape/Ornamental	78.86
Grand Total	558.17

5.1.1 Forests and Woodlands

Forest and woodland habitats consist of multilayered vegetation. Forest habitats typically are characterized as having closed, dense tree canopies. Woodland habitats usually have a more open (20 percent) canopy than forest habitats (Gray and Bramlet 1992).

Mixed Oak Woodland

Mixed Oak Woodlands are most often found at elevations below 4,000 feet above mean sea level (amsl). This type of community typically varies from pure, closed canopies of more than one oak (*Quercus* sp.) species. The dominant species within the Survey Area include coast live oak (*Quercus agrifolia*), scrub oak (*Q. berberidifolia*), Engelmann's oak (*Q. engelmannii*), Palmer's oak (*Q. palmeri*), canyon live oak (*Q. chrysolepis*), California black oak (*Q. kelloggii*), interior live oak (*Q. wislizenii* var. *frutescens*), desert scrub oak (*Q. cornelius-mulleri*), and oak hybrids including (*Quercus x acutidens*), and (*Quercus x morehus*). Trees in this community are approximately 10 to 25 m in height. The herbaceous layer, mainly consisting of nonwoody annual grasses and forbs, can be continuous. Poison oak (*Toxicodendron diversilobum*) also plays a major role in the woody understory or certain Oak Woodlands onsite. Mixed Oak Woodland can be found in canyon bottoms and steep, north-facing slopes with various soil types. This type of community recovers from fires very rapidly. Approximately 10.98 acres of this community exist within the Survey Area. Open/Dense Engelmann Oak Woodlands and Coast Live Oak Forest are also a component of Mixed Oak Woodland.

The following two vegetation communities are NCCP vegetation classifications that are components of Mixed Oak Woodland. Descriptions of these two NCCP vegetation communities are found below.

Coast Live Oak Forest

Areas within and/or surrounded by coast live oak forest consist of an evergreen woodland community, dominated by coast live oak that may reach a height of 35 to 80 feet. The shrub layer may consist of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak. A dense herbaceous understory generally consists of miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*) as potential dominant species. This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and in shaded ravines.

Open/Dense Engelmann Oak Woodlands

Areas characterized by open/dense Engelmann oak woodlands are dominated by Engelmann oak trees and may include other oak species such as coast live oak and black oak and scrub oak (*Q. dumosa*). Trees are widely spaced in open Engelmann oak woodland. The understory is typically grassland or meadow.

Southern Riparian Forest

Southern Riparian Forests are most often found at elevations below 3,000 feet amsl. This type of community is dominated by tall, open, broadleaved, winter-deciduous riparian species such as willow (*Salix* spp.), cottonwood (*Populus* spp.), sycamore (*Platanus racemosa*), and alder (*Alnus* spp.) species. The understory is usually dominated by shrubby willow species or other riparian shrubs. This community

is almost always found along rivers and streams or in areas with a high water table. Dominant species require moist, bare mineral soil for germination and establishment and will typically begin to establish after flood waters recede. Approximately 3.74 acres of this community exist within the Survey Area.

The following vegetation community is a NCCP vegetation classification that is a component of Southern Riparian Forest. The description of the NCCP vegetation community is found below.

Riparian Forests

Areas characterized as riparian forests are identified by the following site conditions: areas occurring along the banks of stream channels and in flood plains dominated by trees such as coast live oak, western sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*), and arroyo willow (*Salix lasiolepis*). The canopy is dense to open. The understory consists of herbaceous species and shrubs, frequently including Fendler's meadow-rue (*Thalictrum fendleri*), poison oak, skunkbush (*Rhus trilobata*), and spreading snowberry (*Symphoricarpos mollis*).

Oak Savanna

Oak Savannas in San Diego County are most often found at elevations ranging from 200 to 2,300 feet amsl. This type of community consists of annual grasses or perennial needlegrass (*Nassella* spp.) species along with widely scattered oak trees that provide less than 10 to 20 percent of the canopy cover. The dominant oak species in this community, particularly in San Diego County, is mainly coast live oak. The Oak Savanna community usually intergrades with Open Oak Woodlands (Gray and Bramlet 1992). Approximately 83.21 acres of this community exist within the Survey Area.

The following vegetation community is a NCCP vegetation classification that is a component of Oak Savanna. The description of the NCCP vegetation community is found below.

Open Oak Woodlands

Areas characterized as Open Oak Woodlands are made up of a combination of oak tree species that may include Engelmann oak, coast live oak, scrub oak, and black oak trees. Generally, these areas contain oaks that are widely spaced, similar to a savanna habitat. The understory is typically grassland or meadow.

Scrublands and Chaparral

Scrublands consist of drought-deciduous, low, soft-leaved shrubs and herbs which are often gray-green in color (e.g., sagebrush, buckwheat, sage). They occupy gentle to steep slopes with shallow or heavy soils mostly at elevations below 3,000 feet amsl. Chaparrals consist of evergreen, dark green, leathery-leaved, medium to tall shrubs that are adapted to occasional fires (Gray and Bramlet 1992). Specific types of scrublands and chaparrals are discussed in more detail below.

Chaparral

Chaparral communities are most often found at elevations below 3,000 feet amsl. This type of community is dominated by leathery-leaved, woody shrubs 1.5 to 3 meters in height, forming a dense

vegetation canopy typically dominated by chamise, black sage (*Salvia mellifera*), sugar bush (*Rhus ovata*), California buckwheat, and ceanothus (*Ceanothus* spp.) species. Plants are deeply rooted with little to no understory but have an accumulation of leaf litter. Growth occurs throughout the year, with the highest growth period occurring during the spring. Chaparral is adapted to repeated fires, after which many species respond by stump-sprouting from an underground root burl. Approximately 26.05 acres of this community exist within the Survey Area.

Southern Mixed Chaparral

Southern Mixed Chaparral communities are most often found at elevations below 3,000 feet amsl. This type of community is dominated by broad, leathery-leaved, woody shrubs 1.5 to 3 meters in height, forming a dense vegetation canopy typically dominated by scrub oak, chamise, several manzanita (*Arctostaphylos* spp.) and ceanothus species with patches of bare soil. Plants are deeply rooted with little to no understory but have an accumulation of leaf litter. Growth occurs throughout the year, with the highest growth period occurring during the spring. Growth is reduced during the late summer-fall dry season or during winter at higher elevations. Southern Mixed Chaparral is adapted to repeated fires, after which many species respond by stump-sprouting from an underground root burl. This community is typically found on dry, rocky, often steep slopes with little soil. This community can be found adjacent to Chamise Chaparral. Approximately 72.77 acres of this community exist within the Survey Area.

Mixed Chaparral/Coastal Sage Scrub

Mixed Chaparral/Coastal Sage Scrub communities are most often found at elevations below 3,000 feet amsl. This type of community represents a gradation and intermingling of coastal sage scrub and chaparral types. These communities represent ecotonal areas between chaparral and scrub communities with component species of both types (Gray and Bramlet 1992). Approximately 15.62 acres of this community exist within the Survey Area.

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub communities are most often found at elevations below 1,500 feet amsl. This community is the most common form of Coastal Sage Scrub found in San Diego County. This community is made up of low, soft-woody subshrubs up to 1 meter in height that are most active in winter and early spring. Most species commonly found in the community are drought-deciduous and include species such as California sagebrush, California buckwheat, white sage, and laurel sumac. This community can be found on steep, xeric slopes or clay-rich soils that release stored water slowly. Diegan Coastal Sage Scrub may integrate with Buckwheat Scrub and types of chaparral at higher elevations (Holland 1986). Approximately 37.29 acres of this community exist within the Survey Area.

The following two vegetation communities are NCCP vegetation classifications that are components of Diegan Coastal Sage Scrub. Descriptions of these two NCCP vegetation communities are found below.

Buckwheat Scrub

Areas within and/or surrounded by buckwheat scrub primarily consist of foothill buckwheat (*Eriogonum wrightii* var. *membranaceum*) or white sage), and generally lack of the presence of coastal sagebrush. The inland form of buckwheat scrub may also contain species such as matchweed (*Gutierrezia* spp.) and cheat grass (*Bromus tectorum*).

Coastal Sage Scrub

Areas within and/or surrounded by coastal sage scrub vegetation are primarily dominated by various combinations of California sagebrush, California buckwheat (*Eriogonum fasciculatum*), saw-toothed goldenbush (*Hazardia squarrosa*), laurel sumac, and black sage (*Salvia mellifera*) and to a lesser extent by deerweed (*Lotus scoparius*), wild cucumber (*Marah macrocarpus*), chaparral yucca (*Yucca whipplei*), mission manzanita (*Xylococcus bicolor*), and California aster (*Corethrogyne filaginifolia*).

5.1.2 Grasslands and Meadows

Grasslands consist of low, herbaceous vegetation dominated by grasses. These habitats grow in deep, well-developed soils on gentle slopes and flats. Meadow habitats are often referred to as seasonal wetlands that consist of seasonally-flooded or saturated areas dominated by annual and perennial herbs (Gray and Bramlet 1992).

The following vegetation community is a NCCP vegetation classification that is a component of Grasslands and Meadows. The description of the NCCP vegetation community is found below.

Grassland

Grasslands are most often found at elevations below 3,000 feet amsl. This type of community consists of a dense to sparse cover of annual grasses such as oats (*Avena* sp.), bromes (*Bromus* sp.), and ryegrass (*Lolium* sp.) with flowering culms up to 3 feet in height. This community is often associated with numerous species of showy-flowered, native annual forbs, “wildflowers,” such as California poppy (*Eschscholzia californica*), lupines (*Lupinus* sp.), and goldfields (*Lasthenia* sp.), especially in years of favorable rainfall (Holland 1986). Germination occurs with the onset of the late fall rains; growth, flowering, and seed-set occur from winter through spring. Typically plants are dead through the summer-fall dry season, persisting as seeds. Grassland can be found on fine-textured, usually clay soils, that are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Approximately 186.51 acres of this community exist within the Survey Area.

Freshwater Seep/Open Water

Freshwater Seeps in San Diego County are most often found at elevations ranging from 2,000 to 4,000 feet amsl. This type of community is composed mostly of perennial herbs, typically sedges and grasses, often forming complete vegetative cover that grows throughout the year. Soils are permanently moist. Freshwater Seeps were often found on pasturelands on private property within the Survey Area. Freshwater marshes and meadows are also found within this community. Approximately 1.31 acres of this community exist within the Survey Area.

The following two vegetation communities are NCCP vegetation classifications that are components of Freshwater Seep/Open Water. Descriptions of these two NCCP vegetation communities are found below.

Meadow/Seep

Areas characterized as meadow/seep include vegetation such as annual and perennial herbs, including wildflowers and bulbs such as mariposa lily (*Calochortus* spp.), lupine (*Lupinus* spp.), blue dicks (*Dichelostemma capitatum*), and many others. Where seeps occur, groundwater keeps the soil moist longer; and vegetation often includes rushes (*Carex* spp.) and spike rushes (*Eleocharis* spp.) and other plants typically associated with wet areas.

Freshwater Marsh

Areas characterized freshwater marsh is characterized by soil that is saturated by fresh water. Fresh water marshes contain vegetation dominated by emergent herbaceous species such as rushes (*Carex* spp.), and spike rushes (*Eleocharis* spp.).

Wetland

Areas characterized as a Wetland generally consist of alkali heath (*Frankenia grandiflora*), arroyo willow (*Salix lasiolepis*), black willow (*Salix goodingii*), hardstem bulrush (*Scirpus acutus*), mulefat (*Baccharis salicifolia*), and common cattail (*Typha latifolia*). Approximately 4.10 acres of this community exists within the proposed project Survey Area.

The following vegetation community is a NCCP vegetation classification that is a component of Wetland communities. The description of the NCCP vegetation community is found below.

Disturbed Wetland

Disturbed Wetland areas consist of flooded or saturated native wetland sites that have been infiltrated and fractured by non-native exotic species (e.g., giant reed [*Arundo donax*], oats, bromes, and ryegrass).

5.1.3 Other Areas

Areas that are not considered native, naturally-occurring habitats are categorized as “Other Areas” for their lack of dominant native vegetation or because they have been dramatically disturbed or altered by humans.

Pasturelands/Cultivated Agriculture

This type of community is best characterized as Dryland Field Crops, as described in Gray and Bramlet (1992), consisting of planted, annual grasses and forbs harvested for livestock feed. These species include barley (*Hordeum* spp.), wild oat, and clover or alfalfa (*Trifolium* spp., *Medicago sativa*) species. Soils are similar to native grasslands, made up of fine-textured, often clay soils that can be very moist in the winter and very dry in the summer. Approximately 7.37 acres of Pasturelands and Cultivated Agriculture exist within the Survey Area.

The following vegetation community is a NCCP vegetation classification that is a component of Pasturelands/Cultivated Agriculture. The description of the NCCP vegetation community is found below.

Agricultural

Areas characterized as agricultural habitat consist of vegetation that has been disturbed by agricultural management practices, including the removal of native vegetation, planting of crop species, and ground-disturbing activities such as grading and tilling. Agricultural activities range from crop production to livestock production and pasture land. Crops may or may not be present.

Urban and Developed/Ornamental Landscaping

Urban and Developed areas consist of buildings, pavement, and highway ROWs throughout incorporated portions of the county (Gray and Bramlet 1992). Approximately 78.86 acres of Urban and Developed land or Landscaped land exist within the Survey Area.

The following vegetation community is a NCCP vegetation classification that is a component of Urban and Developed/Ornamental Landscaping. The description of the NCCP vegetation community is found below.

Landscape/Ornamental

Areas characterized as landscape/ornamental vegetation are dominated by non-native species planted for landscaping and generally occur in residential neighborhoods or along roadsides.

Disturbed

Disturbed, often barren areas either lack vegetation because of clearing or grading (bare ground) or are dominated by pioneering herbaceous species that readily colonize disturbed ground, such as tocalote (*Centaurea melitensis*), wild oat, black mustard (*Brassica nigra*), prickly sow-thistle (*Sonchus asper*), and wild lettuce (*Lactuca serriola*) (Gray and Bramlet 1992). Approximately 30.37 acres of this community exists within the Survey Area.

The following two vegetation communities are NCCP vegetation classifications that are components of Disturbed vegetation community. Descriptions of these two NCCP vegetation communities are found below.

Bare Ground

Areas characterized as bare ground habitats include areas with exposed soils, rocky substrate, access roads, and disturbed areas devoid of plant cover.

Disturbed

Areas within and/or surrounded by disturbed areas are primarily dominated by various combinations of ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), prickly Russian thistle (*Salsola tragus*), slender wild oat (*Avena fatua*), tocalote (*Centaurea melitensis*), redstem stork's bill (*Erodium cicutarium*), lambsquarters (*Chenopodium album*), and hairy crabgrass (*Digitaria sanguinalis*) with scattered individuals or remnants of coastal sage scrub including California buckwheat, California sagebrush, and deerweed.

5.2. TOPOGRAPHY

Topography along the proposed project varies from relatively flat developed, urban/residential areas in Ramona, through steep, rocky hills and relatively flat, grazing/pasturelands to the east/northeast to Santa Ysabel.

5.3. SPECIAL STATUS PLANTS

The California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory (CNPSEI) database search resulted in a list of 16 special status plant species that have been known to occur in the vicinity of the proposed project (see Appendix D, CNDDDB Sensitive Plant Species Occurrence Table). Five of these species are USFS Sensitive Species, and three of these species are covered under the NCCP in San Diego. San Diego thornmint and San Diego button-celery are species federally listed as threatened and state listed as endangered. Spreading navarretia is federally listed as threatened. All three of these species are considered absent from the TL 637 ROW. Five species, San Diego milk-vetch, Orcutt's brodiaea, delicate clarkia, San Bernardino aster, and Parry's tetradlea, have been found within the project Survey Area. One species, San Diego gumplant is considered to have a moderate potential to occur within the project Survey Area. The remaining seven sensitive plant species are considered absent from the project Survey Area. Descriptions of the sensitive plant species and general areas identified during the focused plant surveys are found below.

San Diego Thornmint (*Acanthomintha ilicifolia*) FT, SE, CRPR 1B.1, BLMS, NCCP-Covered

San Diego thornmint is an annual herb in the Lamiaceae family that flowers between April and June. This species favors clay soils and openings of chaparral, coastal scrub, valley and foothill grassland, and vernal pools. San Diego thornmint can be found at elevations between 30 and 3,150 feet (9 to 960 m) amsl. Approximately one-third of the historical occurrences in California have been extirpated; it is threatened by urbanization, road construction, vehicles, grazing, trampling, erosion, and non-native plants (CNPS 2012). San Diego thornmint is considered a sensitive species by the BLM.

San Diego thornmint is considered ABSENT from the project Survey Area. Suitable habitat is present within the project Survey Area and historical occurrences of this species have been recorded within 3 miles of the TL 637 ROW near poles P35, P36, and P37; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

San Diego Milk-Vetch (*Astragalus oocarpus*) CRPR List 1B.2, BLMS

San Diego milk-vetch is a perennial herb in the Fabaceae family that flowers between May and August. This species often grows in the openings among chaparral and cismontane woodland. San Diego milk-vetch can be found at elevations between 1,000 and 5,000 feet (304 to 1,524 m) amsl. This species is threatened by development, road maintenance, and recreation (CNPS 2012). San Diego milk-vetch is considered a sensitive species by the BLM.

A total of 83 individuals were observed within the TL 637 ROW near pole R107 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Orcutt's Brodiaea (*Brodiaea orcuttii*) CRPR List 1B.1, BLMS, NCCP-Covered

Orcutt's brodiaea is a perennial, bulbiferous herb in the Themidaceae family that flowers between May and July. This species often grows in the openings of chaparral, cismontane woodland, coastal scrub, playas, and valley and foothill grassland. This species favors a variety of soil types including; clay, mesic, and sometimes serpentine soils. Orcutt's brodiaea can be found at elevations between 100 and 5,550 feet (30 to 1,676 m) amsl. This species is seriously threatened by residential development, agriculture, foot traffic, grazing, illegal dumping, non-native plants, and vehicles. It is potentially threatened by road construction. It can hybridize with the state and federal listed endangered thread-leaved brodiaea (*Brodiaea filifolia*) (CNPS 2012). Orcutt's brodiaea is considered a sensitive species by the BLM.

A total of 1,020 individuals were observed within the TL 637 ROW near poles D26 and D28 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Delicate Clarkia (*Clarkia delicata*) CRPR List 1B.2

Delicate clarkia is an annual herb in the Onagraceae family that flowers between April and June. This species often grows in gabbroic soils in chaparral and cismontane woodland. Delicate clarkia can be found at elevations between 770 and 3,280 feet (234 to 999 m) amsl. This species is threatened by development, competition from non-native plants, frequent wildfires, road improvement and/or maintenance, and vehicles (CNPS 2012).

A total of 2,830 individuals were observed within the TL 637 ROW near poles P90, P91 P108, and R174 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Long-Spined Spineflower (*Chorizanthe polygonoides* var. *longispina*) FSS, CRPR 1B.2, BLMS

Long-spined spineflower is an annual herb in the Polygonaceae family that flowers between April and July. This species often grows in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Long-spined spineflower can be found at elevations between 100 and 5,020 feet (30 to 1,530 m) amsl. Much of its habitat has been lost to development. This species is threatened by competition from non-native grasses, recreational activities, vehicles, and grazing (CNPS 2012). Long-spined spineflower is considered a sensitive species by the BLM.

Long-spined spineflower is considered ABSENT from the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed on the TL 637 ROW during protocol-level focused plant surveys conducted during the 2010 blooming period.

Palmer's Goldenbush (*Ericameria palmeri* var. *palmeri*) CRPR 1B.1, BLMS

Palmer's goldenbush is a perennial, evergreen shrub in the Asteraceae family that flowers from July through November. This species is found in mesic soils within chaparral and coastal scrub habitats. The elevation range of this species ranges between 98 and 1,970 feet (30 to 600 m) amsl. Threats to this species include development, road construction, road maintenance, and vehicles (CNPS 2012). Palmer's goldenbush is considered sensitive by the BLM.

Palmer's goldenbush is considered ABSENT from the TL 637 ROW. TL 637 is outside the elevation range of this species. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

San Diego Button-Celery (*Eryngium aristulatum* var. *parishii*) FE, SE, CRPR 1B.1, NCCP-Covered

San Diego button-celery is an annual/perennial herb in the Apiaceae family that flowers between April and June. This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet (20 to 620 m) amsl. This species is threatened by agriculture, urbanization, road maintenance, grazing, vehicles, illegal dumping, competition from non-native plants, and foot traffic (CNPS 2012). San Diego button-celery is covered under the San Diego NCCP.

San Diego button-celery is considered ABSENT from the TL 637 ROW because the range of this species is outside of the elevation range found within the TL 637 ROW.

San Diego Gumplant (*Grindelia hallii*) CRPR 1B.2

San Diego gumplant is a perennial herb in the Asteraceae family that flowers from July to October. This species is found in chaparral, lower montane coniferous forests, meadows and seeps, and valley and foothill grassland habitats. San Diego gumplant grows at elevations between 607 and 7,525 feet (185 to 2,300 m) amsl. This species is endemic to San Diego County. Threats to this species include grazing, road maintenance, invasive species, and development (CNPS 2012).

San Diego gumplant has a MODERATE potential to occur within the TL 637 ROW. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the ROW. The San Diego gumplant was not specifically surveyed for during the 2010 survey efforts. SDG&E will survey for this species during the Project-wide verification survey prior to construction activities to avoid potential impacts to this species.

Ramona Horkelia (*Horkelia truncata*) FSS, CRPR 1B.3

Ramona horkelia is a perennial herb in the Rosaceae family that flowers from May through June in chaparral and cismontane woodland. This species is found in San Diego County and Baja California in clay and gabbroic soils at elevations between 1,312 and 4,265 feet (400 to 1,300 m) amsl. Threats to this species include recreational activities. This species may also possibly be threatened by chaparral management and potentially threatened by mining, road maintenance, and grazing (CNPS 2012). Ramona horkelia is considered a sensitive species by the CNF.

Ramona horkelia is presumed ABSENT from the TL 637 ROW. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the TL 637 ROW; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Felt-Leaved Monardella (*Monardella hypoleuca* ssp. *lanata*) CRPR 1B.2

Felt-leaved monardella is a perennial, rhizomatous herb in the Lamiaceae family that flowers between June and August. This species often grows in chaparral and cismontane woodland. Felt-leaved

monardella can be found at elevations between 580 and 5,170 feet (176 to 1,575 m) amsl. This species is threatened by vehicles (CNPS 2012). Felt-leaved monardella was included in the list of targeted plant species for which surveys were performed.

Felt-leaved monardella is presumed ABSENT from the TL 637 ROW. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the TL 637 ROW; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Spreading Navarretia (*Navarretia fossalis*) FT, NCCP, CRPR 1B.1, NCCP-Covered

Spreading navarretia is an annual herb in the Polemoniaceae family that flowers between April and June. This species can be found in chenopod scrub, freshwater marshes and swamps, playas, and vernal pools. Spreading navarretia can be found at elevations between 98 and 2,149 feet (30 to 655 m) amsl. This species is threatened by urbanization, agriculture, road construction, grazing, flood control activities, competition with non-native plants, illegal dumping, foot traffic, and off-highway vehicles. Potential threats may include hydrological alterations (CNPS 2012). Spreading navarretia is covered under the San Diego NCCP.

Spreading navarretia is considered ABSENT from the TL 637 ROW because the range of this species is outside of the elevation range found within the TL 637 ROW.

Southern Skullcap (*Scutellaria bolanderi* ssp. *austromontana*) FSS, CRPR 1B.2

Southern skullcap is a perennial, rhizomatous herb in the Lamiaceae family that flowers between June and August. This species often grows in mesic soils in chaparral, cismontane woodland, and lower montane coniferous forest. Southern skullcap can be found at elevations between 1,400 and 6,560 feet (426 to 1,999 m) amsl. This species is threatened by grazing and recreational activities (CNPS 2012). Southern skullcap is considered a sensitive species by the CNF.

Southern skullcap is presumed ABSENT from the TL 637 ROW. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the ROW; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Purple Stemodia (*Stemodia durantifolia*) CRPR 2.1

Purple stemodia is a perennial herb in Plantaginaceae family that flowers between January and December. This species can be found in Sonoran desert scrub often on mesic, sandy soils at elevations between 591 and 984 feet (180 to 300 m) amsl (CNPS 2012).

Purple stemodia is considered ABSENT from the TL 637 ROW because the range of this species is outside of the elevation range found within the TL 637 ROW. No suitable habitat for this species is found within the TL 637 ROW.

San Bernardino Aster (*Symphyotrichum defoliatum*) CRPR 1B.2, BLMS

San Bernardino aster is a perennial, rhizomatous herb in the Asteraceae family that flowers between July and November. This species often grows in a variety of habitats, typically in vernal mesic soils in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland, and near ditches, streams, and springs. This plant can be found at elevations between 6 and 6,700 feet (0 to 2,042 m) amsl (CNPS 2012). San Bernardino aster is considered a sensitive species by the BLM.

A total of 100 individuals were observed within the TL 637 ROW near pole P106 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Parry's Tetracoccus (*Tetracoccus dioicus*) CRPR 1B.2, BLMS, NCCP-Covered

Parry's tetracoccus is a perennial deciduous shrub in the Euphorbiaceae family that flowers between April and May. This species often grows in chaparral and coastal scrub. Parry's tetracoccus can be found at elevations between 540 and 3,280 feet (164 to 999 m) amsl. This species is threatened by agriculture and development (CNPS 2012). Parry's tetracoccus is considered a sensitive species by the BLM.

A total of 181 individuals were observed within the TL 637 ROW near poles D46, P50, and P48 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Velvety False-Lupine (*Thermopsis californica* var. *semota*) CRPR 1B.2

Velvety false-lupine is a perennial, rhizomatous herb in the Fabaceae family that flowers between March and June. This species often grows in cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Velvety false-lupine can be found at elevations between 3,280 and 6,140 feet (999 to 1,871 m) amsl. This species is threatened by grazing, trampling, recreational activity, and competition from non-native plants (CNPS 2012).

Velvety false-lupine is presumed ABSENT from the TL 637 ROW. The ROW contains suitable habitat, and historical occurrences of this species have been recorded within 3 miles of the TL 637 ROW; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

5.4. SPECIAL STATUS WILDLIFE

The CNDDDB and BLM search resulted in a list of 56 special status wildlife species that have been known to occur in the vicinity of the Survey Area (CNDDDB Sensitive Wildlife Species Occurrence Table; Appendix E). Based on the habitat assessments by qualified and permitted biologists, focused surveys were conducted for QCB and CAGN. Only CAGN, a NCCP-covered species, were identified during the focused survey efforts (Appendix F; Wildlife Species Observed List). No QCB were detected or observed within the project Survey Area. Based on the CNDDDB review and field surveys conducted in 2010 and 2011, 41 of the 56 special status wildlife species were determined to have a low potential to occur or to be absent from the project Survey Area. Of the 56 species, seven are federally listed as endangered (of the seven, two are also state listed as endangered), one federally listed as threatened, two fully protected, and one listed as a federal candidate species. Of the seven listed species, only coastal California gnatcatchers (FT/SSC) were observed. Two fully protected species, golden eagle (NCCP-covered) and

white-tailed kite (not NCCP-covered) were observed or have a high potential to forage on the site, but are considered absent or have a low potential to nest on the ROW, respectively

Seven species have a moderate to high potential to occur (northern red-diamond rattlesnake, San Diego ringneck snake, Belding's orange-throated whiptail, golden eagle, Dulzura pocket mouse, San Diego desert woodrat, and American badger), and eight are considered present (coast horned lizard, Coronado Island skink, coastal rosy boa, coastal California gnatcatcher, purple martin, white-tailed kite, Cooper's hawk, and rufous-crowned sparrow) within the TL 637 ROW. Approximately 10 poles (R66 to P68, P75 to P81) are located in the northeast area of the Survey Area and fall within BLM lands referred to as the Mt. Gower Preserve. Three species of bats are BLM Sensitive species only, are considered to have a low potential to occur on BLM Lands within the Survey Area, and are described in Section 5.6 Sensitive Wildlife on BLM lands. Descriptions of the sensitive wildlife species and general areas identified during the focused surveys are found below.

San Diego Fairy Shrimp (*Branchinecta sandiegonensis*) FE, NCCP-Covered

The San Diego fairy shrimp is a federally listed as endangered species (USFWS 1997d), is covered under the NCCP, and is found within coastal mesa systems in Orange County (small population) and San Diego County, California, and Baja California, Mexico (INRMP 2007). In San Diego County, this species has been identified from Camp Pendleton inland to the Ramona area, south through Del Mar Mesa, Proctor Valley, and Otay Mesa. It is generally limited to high quality vernal pools but can also be found in man-made pools that have not been disturbed for several years (INRMP 2007). Although less common, fairy shrimp species have been identified along road ruts with hard-pan clay type soils. It is a small, freshwater shrimp with large, stalked eyes; no carapace; and eleven pairs of swimming legs, which it uses to swim/walk upside down using a complex movement of the legs passing from back to forth (NatureServe 2011). Females carry eggs in a brood sac, which either drops off as the eggs hatch or stays attached to the female after she dies. The eggs sink to the bottom of the pool environ, where they can withstand temperature extremes or pool drying and hatch in the future when conditions are more favorable. Eggs can stay dormant for years until conditions are right. Eggs that are dropped hatch between 7 and 14 days later, depending on temperature (NatureServe 2011). Populations vary between years of favorable and unfavorable conditions, with populations being higher in the former and lower in the latter. A variation in age of "resting eggs" appears critical for the survival of this species (NatureServe 2011). Loss of habitat is the major threat to the San Diego fairy shrimp.

San Diego Fairy Shrimp has a LOW potential to occur within the TL 637 ROW. CNDDDB records 11 occurrences within 3 miles of the ROW, the closest being approximately 1.3 miles west (outside the Survey Area) in a pool southeast of 7th and Telford Streets in Ramona, California. The project Survey Area was inspected for vernal pools and areas that could potentially support this species, including road ruts with clay soils. Low quality road ruts were observed outside the Survey Area along Creelman Lane outside of the Creelman Staging Yard; however, no vernal pools or claypan areas that would hold water for long durations after a rain event were identified within the Survey Area. During Pre-Activity surveys conducted in 2012 for TL 637, low quality vernal pools were identified outside the fenced Creelman Staging Yard. These vernal pools will be completely avoided during the proposed construction activities.

Quino Checkerspot Butterfly (*Euphydryas editha quino*) FE, NCCP-Covered

The QCB is a federally listed as endangered subspecies of *Euphydryas editha* and is covered under the NCCP (The QCB HCP covers QCB; an amendment to the NCCP). The species ranges from northern Baja

California to Canada along the Pacific coast and east to Colorado. The historical range of this subspecies once included the coastal plains and inland valleys of southern California and northern Baja California. It formerly occurred at many sites in San Diego, Orange, Los Angeles, and western Riverside counties. It is associated with habitats that contain its primary larval host plant, western plantain (*Plantago erecta*) and other host plants such as bird's beak (*Cordylanthus rigidus*) and owl's clover (*Castilleja exserta*). Specifically, owl's clover serves as an additional larval host plant for some Quino checkerspot colonies located east of Temecula. These host plants tend to occur in clay or cryptogamic soils in areas mostly devoid of tall, weedy growth and/or a dense cover of shrubs. Adult butterflies characteristically tend to patrol low hilltops, rocky outcrops, and ridges. Additional habitat requirements include the presence of adult nectar sources and topographic features that include bare, open soils and ridgetops. Habitat loss and invasive plant species are contributing factors in the continuing decline of this species. Chambers Group conducted focused surveys for this species in 2010. Suitable habitat was identified during the habitat assessment by a permitted biologist; therefore focused surveys were conducted in areas containing suitable habitat for QCB within the Survey Area. No QCB were identified. For details regarding the results of the surveys, please see *Quino Checkerspot Butterfly Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California, 2010*.

The Quino checkerspot butterfly can be considered ABSENT from the project Survey Area. Although the project Survey Area has suitable habitat, CNDDDB lists no records of occurrence within 3 miles of the project Survey Area. Protocol focused surveys within the Survey Area were conducted by USFWS permitted QCB biologist Greg Chapman (TE-075112-1). No QCB were identified during the protocol surveys. Comprehensive results of these surveys were presented in the *Quino Checkerspot Butterfly 45-Day Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* prepared by Chambers Group (2011e).

Hermes Copper Butterfly (*Lycaena hermes*) FC

The Hermes copper butterfly is not covered under the NCCP and is not currently listed by any agency, but recent efforts have been made for federal listing. It is an endemic species that occupies a narrow and restricted range within San Diego County and northern Baja California, Mexico. It is strongly associated with spiny redberry (*Rhamnus crocea*) as its host plant and occurs in a spotty distribution in coastal sage scrub and southern mixed chaparral habitats where this plant is found. The upper side of the Hermes copper butterfly is brown with a yellow-orange patch surrounding black spots, and its underside is bright yellow. The forewing has four to six black spots, and the hind wing has three to six black spots. Each wing has one tail, and the wingspan is from 1 to 1.25 inches (Faulkner et al. 2008; Emmel and Emmel 1973). Wildfires in 2003 and 2007 in San Diego County may have significantly impacted existing occupied mature stands of spiny redberry, further reducing appropriate habitat for the species within its range (Marschalek and Klein 2010). Chambers Group conducted focused surveys for Hermes copper butterflies in 2010. Please see *Hermes Copper Butterfly Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California, 2011d*.

The Hermes copper butterfly can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW. No suitable habitat for Hermes copper larvae (mature spiny redberry plants) was identified during a Hermes copper habitat assessment conducted in 2010 (Chambers Group 2011d).

Laguna Mountains Skipper (*Pyrgus ruralis lagunae*) FE

The Laguna Mountains skipper is a federally endangered species and is not covered under the NCCP. Found only at higher elevations, it is known to occur in two locations in San Diego County, Mt. Palomar and the Laguna Mountains (Berkeley.edu 2011). This species is found in montane meadows at elevations between 4,000 and 6,000 feet within yellow pine forests (Black and Vaughan 2011). Mt. Palomar is thought to have four separate populations, including Mendenhall Meadow where numbers in the late 1990s appeared to be strong, and one population in the Laguna Mountains. This species is a small butterfly with an approximately 3-centimeter wingspan, distinguished from *Pyrgus ruralis ruralis* by its extensive white wing markings rather than the overall black coloration of *P. r. ruralis* (Black and Vaughan 2011). Larvae of the Laguna Mountains skipper feed solely on Cleveland's horkelia, and adults rely heavily on this species as a nectar source (Black and Vaughan 2011). Adults mate during the two flight seasons that occur each year, the first occurring in mid spring (April to May) and the second in late summer (June to July); eggs are laid on the underside of the Cleveland's horkelia leaves (Black and Vaughan 2011). The main threat to this species is the loss of its host plant, *Horkelia clevelandii*. This plant is restricted to montane meadows, which have been degraded by grazing, recreational activities, and development (Berkley.edu 2011). Grazing and trampling by cattle are the related threats, especially in late summer when fewer food sources are available to cattle (Black and Vaughan 2011).

The Laguna mountains skipper can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW and no suitable habitat occurs within the ROW. This species is believed to be extirpated from San Diego County (personal communication with USFS) due to fires, with the exception of a possible small population that exists near the Laguna Mountains, outside the project Survey Area.

Arroyo Chub (*Gila orcutti*) SSC

The arroyo chub is a California SSC and is not covered under the NCCP. It occurs in only a few streams in coastal southern California. In San Diego County, it is native to the San Luis Rey and Santa Margarita rivers. This species inhabits slow-moving or backwater sections of streams that are cool to warm and contain mud and sand deposits, as well as intermittent streams. Most spawning occurs in pools or in quiet edge water, at temperatures of 14 to 22 degrees Centigrade (°C). Fry live their first 3 to 4 months in quiet water, in the water column and usually among vegetation or other flooded cover (Moyle et al. 1995). Adults average 3.5 inches in length, and coloration ranges from silver to gray to olive green above and paler below. A dull gray band usually appears along each side. It is omnivorous and may consume algae, crustaceans, insects, larval insects, and floating plants.

The arroyo chub can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW, and the ROW contains low quality suitable habitat to support this species.

Mountain Yellow-Legged Frog (*Rana muscosa*) FE, FC, SSC

The mountain yellow-legged frog is a federally listed as endangered species in the south part of its range, which includes the San Bernardino, San Jacinto, and San Gabriel mountains, a federal candidate to the north, and a California SSC throughout the state. This species is not covered under the NCCP. It seems to prefer gently sloping banks with rocks and/or vegetation up to the edge of the water (Stebbins 1985) and is most always found within several meters of water, including streams, ponds, lakes, reservoirs, and riparian woodlands at moderate to high elevations (Mullally and Cunningham 1956).

According to USFWS, the southern California distinct population segment requires the following habitat elements: (1) streams or stream reaches between 1,214 feet and 7,546 feet in elevation, containing perennial flowing water with pools connected by riffles and runs that have year-round water (in at least some portion of the occupied stream or stream reaches); and (2) riparian and upland vegetation extending about 866 feet from each side of the stream, with an open canopy that allows sunlight to reach the stream (USFWS 2005a). The mountain yellow-legged frog is relatively small in size, ranging from 2 to 3 inches in length. It is typically drab yellowish to reddish in color with black or brown spots or blotches on the dorsum and yellow along the leg margins. Steep population declines have been attributed to many factors, including habitat loss, pollution, cattle grazing, ozone depletion, mining activities and tailings pollution, offroad vehicle disturbance, public dumping, chytrid fungus outbreaks, fires, excessive flooding, and non-native species predation. Predators include non-native bullfrogs, turtles, trout, and other fish; it seems to be most successful where predatory fish are absent (Bradford 1989, Bradford et al. 1993, in press).

The mountain yellow-legged frog can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW, and the ROW lacks suitable habitat to support this species.

Western Spadefoot (*Spea* [= *Scaphiopus*] *hammondi*) SSC, BLMS, NCCP-Covered

The western spadefoot is a California SSC, BLMS, and is covered under the NCCP. The range of this toad includes the coastal slope of California from the Great Valley area into Baja California, Mexico. It inhabits lowland areas such as floodplains, washes, and playas; and it may also be found in woodland, chaparral and grassland habitats of the foothills (California Herps 2012). This species can be found in habitats above 4,000 feet in elevation but is most commonly encountered below 3,000 feet. It prefers sparsely vegetated areas with sandy or gravelly soils, such as open grasslands, for locomotion and burrowing (Santa Ana Watershed Association 2008). From January to May, it primarily breeds in temporary pools but may also breed in slow-moving sections of streams; however, its breeding activities are primarily associated with vernal pools formed by winter rains and underlying clay hardpans. Its vertical cat-like pupils and its horny spade-like digging appendages on the hind feet readily identify this species. The primary threat to this species is habitat loss.

The western spadefoot toad has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, low quality suitable habitat is present within the ROW to support this species.

Arroyo Toad (*Anaxyrus californicus*) FE, SSC, NCCP-Covered

The arroyo toad is a federally listed as endangered species and a California SSC and is covered under the NCCP. The range of this species is within coastal California from Monterey County into northwestern Baja California, Mexico. It is found in washes, streams, and arroyos; and preferred habitats include sandy banks within riparian woodlands such as willow, cottonwood, sycamore, mulefat, and/or coast live oak. It breeds in shallow, sandy/gravelly, riverine pools with low silt content and normally disperses onto adjacent uplands after breeding (USFWS 1999). Individuals have been observed up to 2 kilometers (km) from the streams in which they breed, but most often they are within 0.5 km of those streams (USFWS 2009b). During the breeding season, males call nocturnally from open areas on banks at the edges of streams. Females lay their eggs among gravel, leaves, or sticks on mud or clean sand within low to moderately flowing sections of streams in areas with little or no emergent vegetation and little woody

marginal growth. Newly metamorphosed individuals remain near pools for up to several weeks until the areas dry. This small to moderately-sized species is distinguished from other toads by its chevron-shaped marking between the eyes and by the lack of a mid-dorsal stripe. Coloration may vary from light olive gray to tannish brown above, and the unmarked undersurfaces are creamy to dirty white. The iris is dark brown with scattered gold iridophores on the upper and lower portions of the iris. The primary threat to this species is habitat loss (Hollingsworth et al. 2010). Chambers Group conducted focused surveys for arroyo toad in 2010 in areas that were identified as suitable for toads. The survey effort was not conducted in areas that were identified as “occupied” (verified records) by CNF and USFWS. *Please see Arroyo Toad Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* (Chambers Group 2011a).

The arroyo toad can be considered ABSENT from the TL 637 ROW. Although CNDDDB lists several records of occurrence and Critical Habitat Areas are located within 3 miles of the ROW, no suitable breeding habitat occurs within the ROW (areas now developed lacked surface water; areas that were steep gradient and boulder-strewn lacked sand bars or sandy, braided channels for breeding and egg-laying sites). The ROW was assessed for the potential for arroyo toad breeding sites by arroyo toad biologist Frank Wegscheider and reviewed by Ruben Ramirez. Based on the results of their surveys, pasture grazing and development have removed potential habitat for this species from the ROW.

Coast Range Newt (*Taricha torosa torosa*) SSC

The coast range newt is a California SSC in southern California and occurs in terrestrial habitats such as grasslands, woodlands, and forests. Within these habitat types, this species uses pools, ponds, reservoirs, and slow-moving streams as breeding sites. This species is not covered under the NCCP. Its range includes most of coastal California, and it may be found up to 7,800 feet in elevation. It has a light brown dorsum, reddish-orange or yellow venter, large eyes, smooth to rough skin, and may exceed 7 inches in total length. Breeding males have flattened tails, dark skin on the undersides of the feet, and smooth skin. Its diet includes invertebrates such as earthworms, slugs, sowbugs, snails, and larval insects. This species is threatened by habitat loss and alteration of hydrological systems during the breeding season.

The coast range newt has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, low quality suitable habitat is present within the ROW to support this species.

Large-Blotched Salamander (*Ensatina klauberi*) SSC

The large-blotched salamander is a California SSC and is not covered under the NCCP. This species is found in the peninsular ranges of southern California and in portions of the eastern San Bernardino Mountains, with isolated populations occurring in the Sierra de San Pedro Mártir and the Sierra Juárez of northern Baja California (CalHerps 2011). It is a member of the Plethodontidae family (lungless salamanders) that conducts respiration through its skin and requires damp environments and high humidity. Large-blotched salamanders are most active on rainy or wet nights with moderate temperatures (Calherps 2011). The large-blotched salamander inhabits moist, shaded, evergreen and oak woodland forests with coarse, woody debris on the forest floor. It uses logs, rocks, and bark that has peeled off and fallen near trees and logs for cover; during dry or cold weather it will stay inside burrows, logs, woodrat nests, or under rocks and tree roots (Calherps 2011). Large-blotched salamanders are insectivorous, medium-sized salamanders ranging from 1.5 to 3.5 inches in snout to vent length (SVL)

(Calherps 2011). They have a blackish ground color above with large, orange or pinkish blotches and dark eyes that lack yellow markings. Reproduction occurs in fall or spring, typically at the end of the rainy season. Typically three to 25 eggs are laid in burrows or on logs; and young hatch after 113 to 177 days, fully formed, emerging with fall rains (Calherps 2011). Threats to this species include habitat loss for pasture land, orchards, housing developments, and collection for sale as pets (Jennings and Hayes 1994).

The large-blotched salamander has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, low quality suitable habitat is present within the ROW to support this species.

Southwestern Pond Turtle (*Actinemys marmorata pallida*) SSC, BLM and USFS Sensitive, NCCP-Covered

This species is a California SSC, BLM and USFS Sensitive, and is covered under the NCCP. The southwestern pond turtle occurs along the coast of North America from Baja California up to San Francisco Bay and occurs from sea level to 5,900 feet in elevation (California Reptiles and Amphibians 2009). It inhabits permanent or nearly permanent bodies of water in many habitat types including ponds, marshes, rivers, and streams that typically have a rocky or muddy bottom and extensive aquatic vegetation along water body margins (California Reptiles and Amphibians 2009). The southwestern pond turtle requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Although this species is considered aquatic, some spend a lot of time on land (Bury 2008). The top of the shell is dark brown or yellow-olive and may have dark streaks (Bury 2008). Pond turtles are diurnal but will quickly slide into water when they feel threatened. Most activity takes place from February to November. They hibernate under water in mud and will aestivate during dry summers in soft mud, leaf litter, or woodrat nests (California Reptiles and Amphibians 2009). Pond turtles mate in April and May and nest between April and August (California Reptiles and Amphibians 2009). Habitat destruction is the primary threat to this species. Dams cause cooler water temperatures, fast flows below the dams, and human disturbance due to fishing in reservoirs behind the dams. Reservoirs also tend to have decreased vegetation cover, which decreases invertebrates (Bury 2008).

The southwestern pond turtle has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains some low quality suitable habitat to support this species. No focused surveys for this species were conducted, and no western pond turtles were observed in ponded areas (including stock ponds) during the arroyo toad surveys conducted by Chambers Group in 2010.

California Legless Lizard (*Anniella pulchra*) SSC

The California legless lizard is a California SSC and is broadly distributed across the Los Padres, Angeles, San Bernardino, and Cleveland national forests from sea level to 5,000 feet (Fisher and Case 1997). This species is not covered under the NCCP. It is a burrowing species generally associated with sandy or loose, loamy soils under the sparse vegetation of beaches, chaparral, or pine-oak woodland or under sycamores, cottonwoods, or oaks on stream terraces (Stephenson and Calcarone 1999). The species also may be found under logs, rocks, and leaf litter (Stephenson and Calcarone 1999) and can be difficult to detect due to its burrowing nature. It requires soil moisture for thermal regulation, and animals may die if they are unable to reach a moist substrate. Soil moisture may limit these lizards within the extent of their range (Bury and Balgooyen 1976).

The California legless lizard is thought to have been extirpated from approximately 20 percent of its known historical range due to urbanization, water diversion, agricultural development, and the spread of exotic plant species (Goldberg and Miller 1985; Jennings and Hayes 1994). Suitable habitats occur in CNF along sandy washes, north-facing slopes, and other areas where leaf-litter, logs, and rocks may offer shelter and a source of protective moisture.

The California legless lizard has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains moderate quality suitable habitat to support this species.

Coast (=San Diego) Horned Lizard (*Phrynosoma coronatum blainvillii*) SSC, BLM and USFS Sensitive, NCCP-Covered

The coast horned lizard is a California SSC, BLM and USFS Sensitive, and is covered under the NCCP. It occurs from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura counties southward throughout the Peninsular Ranges of southern California to Baja California, Mexico, as far south as San Vicente. It is found in a wide variety of habitats, including coastal sage scrub, annual grasslands, chaparral, oak woodlands, riparian woodlands, and coniferous forests. It is perhaps most abundant in riparian and coastal sage scrub habitats on old alluvial fans of the southern California coastal plain. In foothill and mountain habitats that are covered with dense brush or other vegetation, the species is largely restricted to areas with pockets of open microhabitat; this habitat structure can be created by natural events such as fire and floods or human-created disturbances such as livestock grazing, fire breaks, and road construction. The key elements of these microhabitats are loose, fine, sandy soils; an abundance of native ants; open areas for basking; and low but relatively dense shrubs for refuge. The coast horned lizard is a moderately-sized, dorso-ventrally flattened lizard with five backwardly projecting head spines; a large shelf above each eye; large, convex, smooth scales on the forehead; and two parallel rows of pointed scales fringing each side of the body. No stripes radiate from the eyes, and the iris is black. The dorsal color is highly variable, but typically gray, tan, reddish-brown, or whitish and usually resembles the prevailing soil color, while the venter is yellow to white with discrete, dark spots. Its diet is almost entirely composed of ants, especially harvester ants, but it will take other insects on an opportunistic basis. The primary threat to the continued existence of this species is habitat loss. Other threats include non-native ants (especially Argentine ants) and disturbances related to off-road vehicles.

The coast horned lizard can be considered PRESENT within the TL 637 ROW. CNDDDB lists six records of occurrence for this species within 3 miles of the ROW, the ROW contains good quality habitat, and this species was observed on the ROW near pole P116.

Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythra beldingi*) SSC, NCCP-Covered

The orange-throated whiptail is a California SSC and is covered under the NCCP. This species is found from San Bernardino County, California, through Baja California, Mexico. It is found in Diegan Coastal Sage Scrub and Coastal Sage-Chaparral Scrub, which provide both open territory and adequate shading, and in sandy washes, rocky outcrops, and open dirt roads. This species is undoubtedly limited by habitat but may be a species that is locally abundant as long as appropriate habitat exists. This species is often found in California buckwheat, California sagebrush, black sage, white sage, chamise, and redshank (*Adenostoma sparsifolium*) sage scrub and chaparral habitats. Due to similar habitat requirements, it typically occurs in association with the San Diego horned lizard. Hibernation sites occur on well-insulated, south-facing, open slopes that are often adjacent to terraces with woody perennials. The

orange-throated whiptail is a moderately sized, gray, reddish brown, dark brown, or black lizard with five to seven pale yellow or tan stripes along each side. The top of the head has a yellow-brown to olive gray, single, fused frontoparietal scale. Undersurfaces are yellowish white, often with gray or bluish slate on the belly. Adults have varying degrees of red-orange wash that may occur on all undersurfaces. The latter is especially prominent on the throat and chest in breeding males. In hatchlings and juveniles, the tail is a highly visible, bright blue. Prey items include a variety of insects and spiders. The primary threat to the continued existence of this species is habitat loss (Brattstrom 2000).

The Belding's orange-throated whiptail has a HIGH potential to occur within the TL 637 ROW. CNDDDB lists four records of occurrence within 3 miles of the ROW, the closest occurrence being approximately 0.7 mile away, approximately 1.1 miles south of Ballena Valley at Hwy 78, 6 miles east of Ramona. In addition, the ROW contains good quality habitat to support this species.

Coronado Island Skink (*Plestiodon* [=*Eumeces*] *skiltonianus interparietalis*) SSC, BLMS, NCCP-Covered

The Coronado Island skink is a California SSC, BLMS, and is covered under the NCCP. It inhabits the coastal plain and Peninsular Ranges west of the deserts from approximately San Geronimo Pass (Riverside County) southward to San Quintín (Baja California), Mexico. It occurs in a variety of plant associations ranging from coastal sage, chaparral, oak woodlands, pinyon-juniper, and riparian woodlands to pine forests; but within these associations it prefers early successional stages and is often restricted to areas with adequate rocky cover, usually near streams. This species is diurnal, with most activity occurring in early spring to early fall, with bimodal activity in summer. The Coronado Island skink is a medium-sized (53 to 83 millimeters snout to vent length [SVL]) smooth-scaled lizard with relatively small limbs and four white or beige stripes on a brown dorsum. The intervening mid-dorsal and lateral dark stripes extend to or beyond the middle of the tail in adults. The tail has at least some blue coloration; the tail color is often brilliant blue in juveniles and adults having unbroken tails. Coronado Island skinks feed upon small invertebrates found in leaf litter. Threats to the Coronado Island skink include habitat loss to citrus and avocado orchards, pesticide use in agricultural fields and orchards, and human use of surface and ground water causing mesic areas to become drier (California Reptiles and Amphibians 2012).

The Coronado Island skink can be considered PRESENT within the TL 637 ROW. CNDDDB lists a record of occurrence within 1 mile of the ROW, and this species was observed on the ROW near pole R107. In addition, the ROW contains good quality suitable habitat to support this species.

Northern Red-Diamond Rattlesnake (*Crotalus ruber ruber*) SSC, NCCP-Covered

The northern red-diamond rattlesnake is a California SSC and is covered under the NCCP. It ranges throughout southern California from San Bernardino County to Cabo San Lucas, Baja California, Mexico, at elevations from sea level to 1,520 meters, with most encountered below 1,200 meters. It occurs in habitats with heavy brush associated with large rocks or boulders. This species is found in chamise and red shank-dominated associations, as well as coastal sage scrub, grassland, woodland, and desert slope scrub associations within canyons, mountains, deserts, and foothills. The northern red-diamond rattlesnake is a large (75 to 163 centimeters), heavy-bodied rattlesnake with a tan, pink, brick-red, or reddish-colored dorsal color and obscure, usually light-edged brick or pinkish diamond-shaped blotches. The tail base is prominently "raccoon tail" marked with broadly spaced but relatively narrow, distinct, black rings contrasting with the rest of the body color. The belly is white to pale yellow, and the undersurface of the tail is pinkish buff. The iris is brown. Northern red-diamond rattlesnakes are

crepuscular or nocturnal during periods of excessive heat and active during the day when temperatures are more moderate. Some individuals have been observed year-round, but it is thought that most hibernate in the winter (Calherps 2011). Peak activity occurs between April and May, potentially in relation to the breeding season. Between three and 20 live young are born between late July and September. Range restriction and habitat loss are the primary reasons for the decline of this species (California Reptiles and Amphibians 2011d).

The northern red-diamond rattlesnake has a MODERATE potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains good quality suitable habitat.

Coastal Rosy Boa (*Lichanura trivirgata roseofusca*) USFS Sensitive, NCCP-Covered

The rosy boa is a USFS Sensitive Species and is covered under the NCCP. This subspecies of the rosy boa occurs from the foothills of the San Gabriel and San Bernardino mountains, south through San Diego County, and into the Sierra de San Pedro Mártir, Baja California, Mexico. It can be found from sea level to 6,800 feet amsl. Distribution is spotty throughout its range. The rosy boa is considered a sensitive species by both BLM and USFS.

The coastal rosy boa is associated with rocky coastal sage, inland sage, and chaparral-covered hillsides and canyons from the coast to the desert transition zone. It may be found under rocks, in rock crevices, or in boulder piles (Klauber 1931). It also is an excellent climber that willingly moves through vegetation and branches in search of prey (Stebbins 2003). It preys upon small mammals, reptiles, amphibians, and birds and kills through constriction (Stebbins 2003). Associated vegetation types include coastal sage scrub dominated by California sagebrush and buckwheat, chamise chaparral, and ceanothus/manzanita chaparral. It often is attracted to oases, intermittent streams, and other sources of water but does not require it (Stebbins 2003). It is chiefly nocturnal but also is regularly seen during the day (Stebbins 2003).

The coastal rosy boa is believed to be declining due to loss of habitat and over-collecting, particularly in coastal areas where it was once common (Fisher and Case 2011). The Angeles, San Bernardino, and Cleveland national forests are all within the historical range of the coastal rosy boa and all support this species (Klauber 1931; Fisher and Case 2011). Several historical locations known for this species occur in the vicinity of the proposed TL 637 construction; and suitable habitat for this species occurs along most of the coastal slope portion of the project Survey Area, as well as the desert transition area. Suitable habitat occurs nearly throughout CNF (California Reptiles and Amphibians 2011e).

This species is considered PRESENT with the TL 637 ROW. CNDDDB lists 2 records of occurrence within 3 miles of the ROW and the ROW contains good quality suitable habitat to support this species. In addition, this species was observed on the ROW near poles P51 and P116. However, this species is not a state sensitive species (not a designated SSC or listed species). The two poles located within CNF Lands are P115 and P116 (where this species was observed). However, no ground disturbing activities would occur during construction. These two poles have already been replaced with steel poles and only pole top work will occur during the proposed project at these locations.

San Diego Mountain Kingsnake (*Lampropeltis zonata pulchra*) SSC, BLMS, and USFS Sensitive

The San Diego mountain kingsnake is a California SSC, BLMS and USFS Sensitive, and is not covered under the NCCP. This California endemic subspecies of the mountain kingsnake is found from 1,640 feet

to approximately 5,900 feet of elevation (Stebbins 2003; Jennings and Hayes 1994). The species in the interior mountains is associated with ponderosa, Jeffrey, and Coulter pines and black oak and is infrequently found below the coniferous forest associations. At lower elevations, it is associated with mixed oak-coniferous forest in riparian woodlands, usually in canyon bottoms that have western sycamore, Fremont cottonwood, coast live oak, willows, wild rose (*Rosa* spp.), and blackberry (*Rubus ursinus*). It may be found in narrow, riparian woodlands in association with chaparral and coastal sage vegetation types (Zweifel 1952). Rocks or rocky outcrops appear to be an important habitat element, providing suitable hibernation and refuge sites as well as food resources (Jennings and Hayes 1994). This snake also is an excellent climber and will move through bushes, perhaps to find bird nests (Stebbins 2003). Prey items include bird eggs and chicks, lizards, small mammals, and other prey. This species is primarily diurnal but becomes more nocturnal during warmer months (Stebbins 2003). CNF is within the historical range of the California mountain kingsnake and provides suitable habitat for this species (Fisher and Case 2011, California Reptiles and Amphibians 2011a).

The San Diego mountain kingsnake has a LOW potential to occur on the TL 637 ROW. The TL 637 ROW is located within the lower elevation range for this species; however, this species is not commonly found within the lower range and was not observed during surveys conducted by Chambers Group in 2010 and 2011. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat.

San Diego Ringneck Snake (*Diadophis punctatus similis*) USFS Sensitive, NCCP-Covered

The San Diego ringneck snake is a USFS Sensitive Species and is covered under the NCCP. This subspecies of the ringneck snake is confined to mountains and watercourses and is associated with moist woodlands, grassland, chaparral, mixed conifer forest, and riparian areas in southern California. This species is diurnal but seldom is seen in the open. It usually is found during the day under cover objects, such as rotting logs, bark fragments, boards, and rocks (Stebbins 2003). Prey items include earthworms, salamanders, small frogs, amphibian larvae, slugs, and other mesic-associated organisms. It is active at dusk and at night during warmer periods and, due to its secretive nature, is often difficult to detect. Ringneck snakes may aggregate at dens for winter hibernation. Home range size is unknown (Zeiner et al. 1988). The San Diego ringneck snake is believed to be declining due to loss of habitat.

The San Bernardino National Forest and CNF are considered to be within the range of the San Diego ringneck snake and are likely to have suitable habitat for the species (Lind 1998). Few historical locations are known for this species in the vicinity of the proposed TL 637 construction, but suitable habitat is present along many areas of the coastal slope portion of the TL 637 ROW, including oak woodlands, dense chaparral, north-facing slopes, and riparian systems.

The San Diego ringneck snake has a MODERATE potential to occur on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains good quality suitable habitat. However, this species is not a state sensitive species (not a designated SSC or listed species). The two poles located within CNF Lands are P115 and P116. These two poles have already been replaced with steel poles and only pole top work will occur during the proposed project at these locations.

Two-Striped Garter Snake (*Thamnophis hammondi*) SSC, BLM and USFS Sensitive, NCCP-Covered

The two-striped garter snake is a California SSC, BLM and USFS Sensitive, and is covered under the NCCP. It is found in disjunct populations from the San Francisco area in California to northwest Baja California, Mexico. Additional populations occur several hundred miles further to the south in Baja California. The two-striped garter snake is found in or near permanent and intermittent freshwater habitats, including streams, rivers, ponds, and small lakes, from sea level to around 8,000 feet amsl. Oak woodlands, brushlands, sparse coniferous forests, and riparian forests may surround its freshwater habitat. It is recognized by its lack of a mid-dorsal stripe, and its coloration is usually olive or brownish above and dull yellow to orange-red or salmon below. Intergrading color morphs are common. This highly aquatic snake is most active at dusk or at night, but it may also forage by day. Its diet includes tadpoles, toads, frogs, small fish, earthworms, California newt larvae, and aquatic eggs. The two-striped garter snake is a live-bearing species that gives birth to up to 36 young at a time. The life history of this species is poorly known. It is highly aquatic and is rarely seen far from water. It emerges from hibernation in the spring and may be active on warm winter days. It is active at temperatures ranging from 66.2 to 89.6°F (Jennings and Hayes 1994). An estimated 40 percent of the historical range of this species has been lost to housing, urban development, and other human impacts (Stebbins 2003).

The two-striped garter snake has a LOW potential to occur on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat.

South Coast Garter Snake (*Thamnophis sirtalis* ssp.) SSC

The south coast garter snake is a California SSC and is not covered under the NCCP. This species is endemic to California, occurring only in scattered localities along the southern coastal plain from the Santa Clara River Valley south to the vicinity of San Pasqual, ranging in elevation from sea level to 2,500 feet amsl (Jennings and Hayes 1994). Restricted to marsh and upland habitats near permanent water sources with riparian vegetation, its diet consists of small fishes, tadpoles, and insects (Jennings and Hayes 1994). Active from March through October, some individuals have been observed during winter months during exceptionally warm weather. South coast garter snakes breed in spring, bearing 12 to 20 live young in August through early fall (Jennings and Hayes 1994). Habitat loss from urbanization, flood control projects, agriculture, and the introduction of non-native aquatic predators like bullfrogs, large mouth bass, and catfish are the major threats to this species (Jennings and Hayes 1994).

The south coast garter snake has a LOW potential to occur on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the, the ROW contains moderate quality suitable habitat.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgulata*) SSC, NCCP-Covered

The coast patch-nosed snake is listed as a California SSC and is covered under the NCCP. It occurs from northern Carrizo Plains of San Luis Obispo County southward into Baja California at elevations of sea level to 9,000 feet (Jennings and Hayes 1994). It is a slender, medium-sized snake ranging in size from 10 to 46 inches in length (Calherps 2011), with a yellow or beige, dark-bordered mid-dorsal stripe one full scale row and two half scale rows on each side with a large patch-like rostral scale (Jennings and Hayes 1994). Undersurfaces are cream to white-colored, often with pink or orange washing near the tail; its iris is black with a buff ring around the pupil (Jennings and Hayes 1994). This species is found in chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains and rocky hillsides. It seeks refuge and potentially overwinters in woodrat middens and small mammal burrows, so these may be

necessary for this species to occur (Jennings and Hayes 1994). The coast patch-nosed snake is bimodally active, with evidence that its peak activity interval corresponds to the peak activity intervals of its main prey item, whiptail lizards; and it will climb shrubs in pursuit of prey (Jennings and Hayes 1994). This species overwinters from October to March and is thought to lay eggs from May to August. In addition to whiptail lizards, it feeds on small mammals, amphibians, bird nestlings, and, possibly, small snakes (Calherps 2011). Considered an uncommon species with little information existing about its natural history or abundance, threats to the coast patch-nosed snake include habitat degradation from heavy grazing, land development, and loss of former habitat (California Reptiles and Amphibians 2011b).

The coast patch-nosed snake has a LOW potential to occur on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains moderate quality suitable habitat.

Golden Eagle (*Aquila chrysaetos*) FP Under BGEPA and CDFW, CDFW Watch List, BLMS, NCCP-Covered

The golden eagle is a FP species under the BGEPA and by the State of California, is a CDFW watch list species, and is BLMS. This species is covered under the NCCP. This species is found mostly in western North America, from Alaska south to central Mexico. Fewer are found in eastern Canada, as well as a few isolated pairs in the eastern United States. The golden eagle prefers mountainous or hilly terrain, hunting over open country for small mammals, snakes, birds, or carrion. The golden eagle nests on cliff faces, walled canyons, or in tall trees. The golden eagle is a very large raptor, standing nearly three feet tall, with a large, hooked bill. It is brown all over, with a golden sheen on its head and golden patches and highlights over its life molt. Direct or indirect human activities (e.g., collisions with vehicles, power lines, or other structures; electrocution; gunshot; and poisoning) have been estimated to cause up to 70 percent of recorded golden eagle deaths. Populations are also threatened by habitat degradation and nest disturbance (Kochert et al. 2002). Although data regarding golden eagles was obtained from SDG&E from a golden eagle nest survey conducted for the Sunrise Powerlink Project in 2010, this data was not publicly published in an effort to protect the location of the nest sites.

The golden eagle has a HIGH potential to forage within TL 637 ROW and can be considered ABSENT for nesting within the ROW. Although CNDDDB lists no records of occurrence within 3 miles of the TL 637 ROW, a historic golden eagle nesting location was identified within 5 miles southeast of the proposed TL 637 construction site, known as the Gower Mountain site in the Cleveland National Forest. Wildlife Research Institute conducted golden eagle surveys and provided SDG&E with raw data to create the 4,000 foot exclusionary buffers for the Sunrise Powerlink Project. According to the Raptor Management page on the USDA Forest Service website (<http://www.fs.usda.gov/detail/cleveland/landmanagement/resourcemanagement>), this nest was not active in 2012. Therefore, this species is considered to have a high potential to forage but is not considered to have a potential to nest directly within the ROW.

White-Tailed Kite (*Elanus leucurus*) FPS, BLM Sensitive

The white-tailed kite (nesting) is a California Fully Protected Species, BLM Sensitive, and is not covered under the NCCP. In the United States, its range extends along the Pacific coast from southwest Washington through California and also includes south-central Arizona, south Texas, and south Florida. It also occurs in Mexico and Central America. In California, it is a resident and localized migrant of the Central Valley and Pacific coast. Evidence in recent years suggests that the range of this species is increasing, although erratic shifts in the distribution of this species are not uncommon. It inhabits low-to moderate-elevation grasslands, savannas, agricultural areas, wetlands, oak woodlands, marshes, and riparian woodlands and usually breeds in open areas with scattered trees, often near water. The white-

tailed kite is a medium-sized hawk with a white head; grey back; long, white tail; and large, black scapulars. It forages often by “kiting,” or hovering in one area while scanning the ground for potential prey. Its diet includes primarily small mammals, but it will also take large insects, amphibians, and lizards. Degradation or loss of grassland habitat to development or ranching is a significant threat to populations (Dunk 1995). Historical population declines may be attributed to chemical poisoning.

The white-tailed kite can be considered PRESENT on the TL 637 ROW for foraging purposes and has a LOW potential to nest on the ROW. CNDDDB lists one record of occurrence within 1 mile of the ROW, and this species was observed on the ROW near pole P158. In addition, the ROW contains suitable foraging habitat.

Cooper’s Hawk (*Accipiter cooperii*) SSC, NCCP-Covered

The Cooper’s hawk (nesting) is a California SSC and is covered under the NCCP. This species occurs as a migrant and/or resident over most of the United States from southern Canada to northern Mexico. Historically, the Cooper’s hawk has favored habitats include open woodlands, mature forests, woodland edges, and river groves. More recently, the Cooper’s hawk has been known to breed in suburban and urban areas with similar tree structure to native habitats. This species is similar in appearance to the sharp-shinned hawk (*Accipiter striatus*), but is distinguished by its larger size, more rounded tail, and darker crown. The Cooper’s hawk is a medium-sized (14 to 20 inches) hawk and is well-adapted for hunting birds as prey with its long tail and short, rounded wings; these features allow maneuverability in pursuit and on the ambush. In addition to birds, it may also take amphibians, reptiles and small mammals as supplemental prey items. Historic population losses resulted from the widespread use of DDT. Other threats include habitat loss and illegal hunting (Remsen 1978).

The Cooper’s hawk can be considered PRESENT on the TL 637 ROW for foraging purposes and has a HIGH potential to nest on the ROW. Although CNDDDB lists no records of occurrence within 3 miles of the, the ROW contains good quality suitable habitat and this species was observed on the ROW near pole P156.

Burrowing Owl (*Athene cunicularia*) SSC, BLMS, NCCP Narrow Endemic

The burrowing owl is a California SSC, BLMS, and is a narrow endemic species covered under the NCCP. It breeds in open plains from western Canada and the western United States, Mexico through Central America, and into South America to Argentina (Klute et al. 2003). This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation (Ehrlich et al. 1988). It may occupy golf courses, cemeteries, road ROWs, airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows (TLMA 2006). It occupies mammal burrows such as badger, prairie dog, and ground squirrel burrows for subterranean shelter and nesting (Trulio 1997). When burrows are scarce, the burrowing owl may use man-made structures such as openings beneath cement or asphalt pavement, pipes, culverts, and nest boxes (TLMA 2006). One burrow is typically selected for use as the nest; however, satellite burrows are usually found in the immediate vicinity of the nest burrow within the defended territory of the owl. Burrowing owls are active day and night, with peak times at dawn and dusk (Klute et al. 2003). Breeding typically occurs from March through August, with peak periods in May and July. The burrowing owl is a small, ground-dwelling owl with a round, grey-brown, tuftless head; long, bare yellow legs; bright yellow iris; brown back; and buffy-white underparts with brown barring (Klute et al. 2003). Insects form the bulk of its diet in the summer and small mammals, birds and reptiles in the winter (Klute et al. 2003).

Threats to burrowing owl populations include the loss of and destruction of habitat from agriculture and urban development, the destruction of burrows, and indirect poisoning via rodent eradication efforts (Klute et al. 2003).

The burrowing owl has a LOW potential to forage, winter, and have active burrow sites on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat to support the species.

California Spotted Owl (*Strix occidentalis occidentalis*) SSC, BLMS, USFS Sensitive

The California spotted owl is a BLM and USFS Sensitive species and a California SSC, and is not covered under the NCCP. This subspecies of spotted owl inhabits the Sierra Nevada and southern California mountain ranges from sea level to 7,000 feet in elevation (Call 1990). This species breeds and roosts in forests and woodlands with dense multiple canopy layers, large trees, and downed woody debris (Bond et al. 2009; LaHaye et al. 1997). In southern California, this species is known to use riparian hardwood forest types containing coast and canyon live oak, cottonwood, California sycamore, white alder, and California bay (Verner et al. 1992a, Verner et al. 1992b); these forest types typically occur at lower elevations. Small to medium-sized mammals, primarily rodents, are the main foods of this species. The primary threat to the California spotted owl is habitat loss and degradation from logging, mining, agriculture, water development, and urban development (Gutiérrez et al. 1995a, 1995b; Bias 1992; USFS 1991-2005).

The California spotted owl has a LOW potential to occur within the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW, but the ROW contains low quality suitable habitat to support the species (Chambers Group 2011b).

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) FE, NCCP-Covered

The southwestern willow flycatcher (SWFL) (nesting) is a federally listed as endangered subspecies of willow flycatcher and is covered under the NCCP. The summer breeding range of this species includes southern California (from the Santa Ynez River south), Arizona, New Mexico, extreme southern portions of Nevada and Utah, extreme southwest Colorado, and western Texas (USFWS 1995). Records of probable breeding SWFL in Mexico are rare and restricted to extreme northern Baja California del Norte and Sonora. The largest California populations occur along the Santa Margarita, San Luis Rey, and South Fork Kern river systems. It is known to breed in a variety of riparian habitats with multi-tiered canopies and surface water and/or saturated soils, whether along streams in broad valleys, in canyon bottoms, around mountain-side seepages, or at the margins of ponds and lakes (Grinnell and Miller 1944). Where willow species dominate, high foliage-volume willow cover is preferred but with willow clumps separated by openings (Harris et al. 1988). Habitat types may include a variety of willow (*Salix* spp.), cottonwood (*Populus* spp.), coast live oak, alder (*Alnus* spp.), and tamarisk (*Tamarix* spp.) woodlands. It is safely distinguished from other members of its genus only by its characteristic *fitzbeu* song and breeding area. It is a relatively non-descript flycatcher with a dark back, two faint wing bars, yellow lower mandible, faint wash of yellow on the belly, and little to no eye ring. It forages for insects on the wing and embarks on short flights from favorite perches to catch the flying insects. While perched, it characteristically flicks its tail upwards on occasion. This species is in decline primarily due to extensive habitat loss and brood parasitism by the brown-headed cowbird (*Molothrus ater*) (Kus et al. 1999).

The SWFL has a LOW potential to forage within the TL 637 ROW and can be considered ABSENT for nesting within the ROW. Chambers Group permitted biologist Kris Alberts (TE-039640-2) conducted habitat assessment surveys for this species in 2010. Please see *Southwestern Willow Flycatcher Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* (Chambers Group 2011h). The ROW contains low quality foraging habitat; therefore the SWFL has a low potential to forage within this habitat. However, since CNDDDB lists no records of occurrence within 3 miles of the ROW, and the SWFL has high site fidelity and is not known to breed outside historic locations, this species can be considered absent for nesting within the ROW.

Purple Martin (*Progne subis*) SSC

The purple martin (nesting) is a California SSC and is not covered under the NCCP. The breeding range of this species covers most of eastern North America from southern Canada to northern Mexico to the eastern seaboard and throughout the Gulf Coast. Other localized breeding populations occur in scattered areas of the western United States and Mexico, including southwestern California. Fall flocks in migration have numbered in the tens of thousands. It winters mostly in South America to southeastern Brazil. Habitats include towns and farms in open or semi-open country near water. This species prefers to nest in man-made martin houses but will also nest in tree cavities and saguaro cactus. It tends to fly in circles while foraging for insects over water bodies but occasionally gleans insects from the ground. With a wingspan of up to 17 inches, the purple martin is the largest North American swallow. The male is uniformly blue-black above and below; it is the only American swallow with a dark belly. The female is light-bellied, with a grayish throat and breast and often a faint collar. A major cause for the decline of this species is competition from European starlings and house sparrows; these birds are very aggressive cavity nesters that effectively out-compete purple martins for nest sites. Other factors include the felling of dead trees with nesting cavities.

The purple martin can be considered PRESENT on the TL 637 ROW for both foraging and nesting purposes. CNDDDB lists a record of this species in 2007, nesting in a wood power pole east of Little Page Road and 0.5 mile south of Hwy 78, at Collier Flat. In addition, a purple martin pair was observed nesting at pole P113.

Least Bell's Vireo (*Vireo bellii pusillus*) FE, SE, NCCP-Covered

The least Bell's vireo (LBVI) (nesting) is a federal and state listed as endangered subspecies of the Bell's vireo and is covered under the NCCP. The LBVI subspecies is restricted to coastal California and Baja California, Mexico, and a few inland populations. Its winter range extends along the Pacific coast from northern Mexico south to northern Nicaragua. It is a small, gray songbird with two faint wingbars and a faint eyering and is whiter below. This species prefers to nest in low, dense, scrubby vegetation in early successional areas and is particularly dependent on corridors of habitat along rivers and streams (Brown 1993; Goldwasser 1981). The two major factors in the decline of LBVI populations are loss of habitat and nest parasitism by the brown headed-cowbird. Despite historical population losses, recent trends indicate that populations are on the rise and that the LBVI is returning to parts of its former range as well as colonizing some new areas.

The LBVI has a LOW potential to forage and nest on the TL 637 ROW. Chambers Group conducted habitat assessments for this species in 2010. Please see *Least Bell's Vireo Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* (Chambers

2011f). Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat to support this species.

San Diego Coastal Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*) SSC, NCCP Narrow Endemic, NCCP-Covered

The San Diego coastal cactus wren is a California SSC and is a narrow endemic species covered under the NCCP. It is found from the lower southwestern United States south into Mexico; in California it is found only in Orange and San Diego counties. Its preferred habitat includes coastal sage scrub interlaced with patches of opuntia cactus (such as chollas and prickly pear), which it uses almost exclusively for the construction of nests (Unitt 2008). The nests are remarkably large and conspicuous, given the size of the bird, and are constructed as woven spherical nests with a side opening in the branches of the host cactus. San Diego coastal cactus wrens nest primarily from early March through July, and young disperse only a short distance from nesting sites. This species is predominantly insectivorous, foraging on the ground and within vegetation for a variety of insects, including caterpillars, moths, and grasshoppers. San Diego cactus wrens establish resident territories and maintain them for life. The primary threat to this species is urbanization. Additional threats include fire, habitat degradation, and fragmentation (Unitt 2008).

The San Diego coastal cactus wren has a LOW potential to occur on the TL 637 ROW. This species was not observed during surveys conducted by Chambers Group from 2010 to 2012. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat to support this species.

Coastal California Gnatcatcher (*Polioptila californica californica*) FT, SSC, NCCP-Covered

The coastal California gnatcatcher (CAGN) is a federally listed as threatened species and a California SSC, and is covered under the NCCP. The historical range of this species extended from the coast and foothills of Ventura County and south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented (Bontrager 1991). It is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 2,500 feet in elevation. The CAGN is a small, secretive songbird with grayish coloration and faint, white, outer tail margins. Males of this species exhibit a black cap during the breeding season. This insectivorous bird nests and forages in moderately dense stands along gentle slopes, arid hillsides, mesas, foothills, and alluvial washes. It gleans a variety of insects within its territory, including caterpillars and other larval insects. It builds a cup nest in suitably dense shrubs and lays four eggs, on average. Contributing factors in the decline of this species include overly frequent fire cycles, non-native plant invasions, brown-headed cowbird nest parasitism, predation, and widespread habitat loss to urbanization and agriculture (Mock et al. 1990; Bontrager 1991). Chambers Group conducted focused surveys for this species in 2010. Please see *Coastal California Gnatcatcher Focused Survey Report for the San Diego Gas & Electric Cleveland National Forest Project, San Diego County, California* (Chambers Group 2011c).

The USFWS designation of critical habitat for the CAGN specifically excluded areas within functioning HCPs, such as SDG&E's *SDG&E Subregional NCCP*. The CAGN habitat owned by SDG&E (and covered under the *SDG&E Subregional NCCP*) was determined to have greater benefits CAGN than from lands designated as critical habitat (Federal Register 2007). Habitat for the CAGN is found in several locations along the proposed project route as well as designated critical habitat. This species was observed

nesting and foraging on the TL 637 ROW near poles P64 west to P52, P48 to P51, D44 to P43 to P47, and D46 during focused surveys conducted in 2010 (Chambers Group 2010). These CAGN occupied areas are outside the USFWS designated critical habitat.

CNDDDB lists two records of occurrence of this species within 2 miles of the TL 637 ROW. In addition, the ROW contains good quality suitable habitat. The CAGN can be considered PRESENT on the ROW for both foraging and nesting purposes.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*) WL, NCCP-Covered

The southern California rufous-crowned sparrow is a California Watch List species and is covered under the NCCP. It is one of 17 recognized subspecies of the rufous-crowned sparrow, whose overall range includes parts of California, Arizona, New Mexico, Texas, Oklahoma and Arkansas as well as Mexico. This sub-species is a resident of southwest California on the slopes of the Transverse and Coast ranges from Los Angeles County south to Baja California Norte; it can also be found on San Martin Island. Habitats include broken sage scrub and chaparral, native grasslands with sparse shrubs, and rocky, brush laden hillsides and canyons with open patches. It is a small, non-descript sparrow with a rusty crown, white eye-ring, dark whisker marks, and a flat-headed appearance. It is a secretive species that is more often heard than seen as it forages among the shrubs. Habitat loss is the primary factor in the decline of the southern California rufous-crowned sparrow.

The southern California rufous-crowned sparrow can be considered PRESENT within the TL 637 ROW for foraging, with a HIGH potential to nest within the ROW. CNDDDB lists three records of occurrence within 3 miles of the ROW. This species was observed foraging in several locations along the ROW, and the ROW contains good quality suitable habitat.

Tricolored Blackbird (*Agelaius tricolor*) (nesting colony) SSC, BLMS, NCCP-Covered

The tricolored blackbird is a California SSC and a BLMS and is covered under the NCCP. This species occurs primarily in California, with smaller populations in northern Mexico. This species is locally common in parts of the Central Valley and along the coast in Sonoma County but is not found commonly over most parts of its range. This species breeds near fresh water; often in emergent wetlands with tall, dense cattails or tules; but also in thickets of willow, blackberry, wild rose, or tall, dense forbs. Seeds and cultivated grains, such as rice and oats, compose most of its fall and winter diet. Tricolored blackbirds forage on the ground in croplands, grassy fields, flooded land, and along edges of ponds. Breeding season usually takes place from mid-April into late July, but Orians (1960) also reported active breeding in October and November in Sacramento Valley. Over the past few decades, numbers have been declining in California (DeHaven et al. 1975). Reasons for the decline include the conversion of marshland habitats and agricultural poisoning (Hamilton 2004; University of California, Davis 2010).

The tricolored blackbird has a LOW potential to forage on the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains suitable habitat to support this species for foraging; however, no large stands of cattails that typically support colonial nesting were identified within the ROW. Therefore, this species is considered to have a LOW potential to nest within the ROW.

Yellow Warbler (*Dendroica petechia brewsteri*) SSC

The yellow warbler (nesting) is a California SSC and is not covered under the NCCP. Its breeding range includes most of North America from northern Alaska and northern Canada to the southern United States and Mexico. Wintering birds occur from Mexico to Peru. Breeding habitats include wet areas such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories. In migration, this species may occur in other habitats, including early seral riparian habitats. Its plumage is more extensively yellow than other North American wood-warblers, and it is also unique in having yellow on the inner webs of its tail feathers (except the middle pair). Males show rusty streaking on the breast. It is almost entirely insectivorous but also eats a few berries. Populations are in decline in California due to habitat loss, grazing of riparian understories, and brood parasitism by the brown-headed cowbird.

There is a LOW potential for the yellow warbler to forage and nest within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low to moderate quality suitable habitat to support this species.

California Leaf-Nosed Bat (*Macrotus californicus*) SSC, BLM Sensitive

The California leaf-nosed bat is a California SSC and is not covered under the NCCP. Its range includes southern California, southern Nevada, western and southern Arizona, and northwestern Mexico to the tip of Baja California. In California, some individuals migrate to Mexico for the winter, while others occur year-round. It inhabits desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis habitats. Roost sites include tunnels, rock shelters, mines, caves, buildings, and bridges. It is a colonially roosting species, and colonies can become quite large. It feeds on insects, primarily moths, beetles, and cicadas. The California leaf-nosed bat appears well after sunset and forages quietly and very close to the ground over flats and washes. Copulation occurs from September to November, and births take place from May to June. Lactation occurs for one month. This species is sensitive to roost disturbance and is declining in desert habitats; but it can still be found in various locations along the Colorado River. The California leaf-nosed bat no longer occurs along the coast of California.

The California leaf-nosed bat can be considered to have a LOW potential to occur within the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW. The ROW contains low quality roosting habitat to support this species.

Pallid Bat (*Antrozous pallidus*) SSC, BLMS, USFS Sensitive

The pallid bat is listed as a California SSC and is BLMS and USFS Sensitive. This species is not covered under the NCCP. Its range extends from southern British Columbia along the Pacific coast, south to central Mexico, and east to central Kansas and Oklahoma. It occurs in a variety of habitats, including arid desert scrub, oak woodlands, juniper woodlands, grasslands, coniferous forests, and water-associated habitats. It may be more common throughout its range where rocky outcrops provide roost sites. The pallid bat, a member of the Vespertilionidae family (free-tailed bat family), is a rather large, pale, yellowish-brown bat with paler coloration below and a wingspan of about 9 inches (CDFW and CIWGTG 1990b, 2005). Population dynamics are not fully understood, but one contributing factor in the decline of this species includes roost disturbance; it is highly susceptible to disturbance and may vacate a roost

for years afterwards. Other factors include the razing of abandoned buildings, mining operations, pesticide-induced poisoning, and loss of foraging habitats (Bat Conservation International, Inc. 2011a).

The pallid bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists six records of occurrence within 3 miles of the ROW, the closest being approximately 0.6 mile from the ROW. In addition, the ROW contains low quality roosting habitat to support this species.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*) SSC, BLMS, USFS Sensitive

The Townsend's big-eared bat is a California SSC, BLMS and USFS Sensitive and is not covered under the NCCP. This species ranges over most of the western United States north to southwest Canada, south into central Mexico, and east along a smaller range through the middle of the United States to Pennsylvania from sea level to 6,000 feet amsl. This species is found in all habitat types except alpine, but it is rare throughout most of its range. Roosts are found in caves, buildings, tunnels, mines, and other human-made structures. This species hibernates singly or in groups from October to April and undergoes short migrations to hibernation roosts. Females form maternity colonies, but males are solitary in the spring and summer. Births of one young to each litter take place in May and June; the young are independent after six weeks. Moths are its main food source, but beetles and insects are consumed as well. This species has high site fidelity, but it is extremely sensitive to disturbance of roosting sites (Bat Conservation International, Inc. 2010; Gruver and Keinath 2006).

The Townsend's big-eared bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists three records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

Silver-Haired Bat (*Lasionycteris noctivagans*) WBWG-Moderate Priority Species

The silver-haired bat is a Western Bat Working Group (WBWG) moderate-priority species. The WBWG is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. This species is not covered by the NCCP. The silver-haired bat's distribution includes coast and montane forest from the Oregon border south along the coast to San Francisco Bay and along the Sierra Nevada and Great Basin region to Inyo County. It is also found in southern California from Ventura and San Bernardino counties south to Mexico and on the Channel Islands. Silver-haired bats are migratory and may be found anywhere in California during migrations. This species is primarily a forest dweller and roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. The silver-haired bat mates in autumn, starting in late August; and the young are born from May to July. This species may forage with other bat species, feeding on moths, but has been found to feed on other types of prey, such as beetles and other hard-shelled insects. It prefers to feed over streams, ponds, and open brushy areas, usually less than 20 feet above the pond/stream surface or ground.

The silver-haired bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists a single record of occurrence within 3 miles of the ROW from 1982, and the ROW contains low quality roosting habitat to support this species. However, this is not a state sensitive species (designated SSC or listed species).

Western Red Bat (*Lasiurus blossevillii*) SSC, USFS Sensitive

The western red bat is a California SSC, a USFS Sensitive species and is not covered under the NCCP. Western red bats have a broad range, extending from southern British Columbia; throughout much of the western United States, Mexico, and Central America; and as far south as Argentina and Chile (Pierson and Rainey 1998). Within California this species is found in coastal areas near San Francisco Bay south to the Central Valley and into eastern portions of Riverside County and central San Diego County of southern California (Pierson and Rainey 1998). It roosts in small colonies in the foliage of trees and shrubs in edge areas adjacent to streams and open fields, preferring foraging areas that are distant from human habitation (Pierson and Rainey 1998). Western red bats are medium-sized bats best distinguished by their brick-red colored fur; short rostrum; short, rounded ears; and heavily furred interfemoral membrane (Pierson and Rainey 1998). Breeding occurs in late summer or early fall; females become pregnant in spring and give birth to 1 to 5 pups after an 80- to 90-day gestation period. This species is insectivorous and migratory. Threats to the western red bat include predation, agricultural conversion of riparian habitat, storage reservoirs that submerge riparian habitat, pesticides from agriculture, and fire (Pierson and Rainey 1998; Bat Conservation International, Inc. 2010).

The western red bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists three records of occurrence within 3 miles of the ROW, and the ROW contains low low quality roosting habitat to support this species.

Hoary Bat (*Lasiurus cinereus*) WBWG- Moderate Priority Species

The hoary bat is a WBWG moderate-priority species and is not covered under the NCCP. The hoary bat occurs in a variety of habitats across the North American continent but has a patchy distribution in southeastern California. This species winters in coastal and southern California but can be widespread during migration. Suitable breeding habitat includes all woodlands and forests with medium to large-size trees and dense foliage. This species can be found from sea level to 13,200 feet. This solitary bat prefers to roost in dense foliage in sites that are hidden from above with few branches below and near areas with water. During migration in southern California, males are found in foothills, deserts, and mountains; while females prefer lowlands and coastal valleys.

The hoary bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists five records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species. However, this is not a state sensitive species (designated SSC or listed species).

Western Yellow Bat (*Lasiurus xanthinus*) SSC

The western yellow bat is a California SSC and is not covered under the NCCP. It is found in localized populations throughout the southwestern United States, but primarily it is found in Mexico and Central America. In California, it is an obligate foliage-roosting species that prefers dead palm fronds to other types of tree substrates. The western yellow bat is primarily non-colonial, but small colonies have been documented in some areas. Unlike many other bats found in this region, it appears that this species is found throughout the year in southern California. It is most commonly associated with palm oases but can also occur in grasslands, scrublands, ornamental landscaping, and wooded areas in riparian zones. It can be distinguished from other bat species in California by its yellow fur, short ears, and medium size. Females give birth to one to four pups from June through July. Threats to this species include its limited distribution, restrictive habitat requirements, and predation.

The western yellow bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists two records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

Western Mastiff Bat (*Eumops perotis*) SSC, BLM Sensitive

The western mastiff bat is listed as a California SSC, a BLM Sensitive species and is not covered under the NCCP. It is a permanent resident throughout its range in southern California, southern Arizona, Texas, and south to South America. With a wingspan approaching 2 feet, the western mastiff bat is the largest bat species in North America. It is also unique in that its call can be readily identified with the unaided ear. It roosts in small colonies or singly in primarily natural substrates such as cliff faces, large boulders, and exfoliating rock surfaces. It is less commonly found in artificial structures such as buildings and roof tiles. It is found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands. Reasons for observed population declines are unknown (Ahlborn 1990).

The western red mastiff bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists seven records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*) SSC

The pocketed free-tailed bat is a California SSC and is not covered under the NCCP. This primarily Mexican bat species is found in Mexico south to the state of Michoacan and occurs in the southwestern United States from southern California, southern Arizona, southeastern New Mexico, and western Texas. In California, this species is found in Riverside, San Diego, and Imperial counties; it is rare in California. It inhabits pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert washes, alkali desert scrub, Joshua tree, and palm oasis habitats. It roosts in small colonies of up to 100 individuals in rock crevices, caverns, roof tiles, and buildings. Although possible migration patterns are not well understood, it is most likely a year-long resident. Little wintering information exists for this species within its range in the United States. The pocketed free-tailed bat feeds on insects flying over desert habitat, streams, or ponds. This species feeds primarily on moths but also eats crickets, flying ants, stinkbugs, froghoppers, leafhoppers, lacewings, and other insects. It usually appears well after sunset. It is similar in appearance to the more common Brazilian free-tailed bat (*Tadarida brasiliensis*), with the exceptions that its ears are joined at the midline; and it has a fold of skin that creates a small pocket near the knee area of the interfemoral membrane, from which it gets its common name. It gives birth to one young per year, which takes place in June or July; lactation occurs in July and August. Little is known of the factors contributing to the decline of this species in the United States (Harris 2000).

This species has a LOW potential to occur within the TL 637 ROW. The CNDDDB lists six records of occurrence within 3 miles of the ROW. The ROW contains low quality roosting habitat to support this species.

Big Free-Tailed Bat (*Nyctinomops macrotis*) SSC

The big free-tailed bat is a California SSC and is not covered under the NCCP. It is widely but locally distributed from Iowa and southwestern British Columbia in the north, southward through Mexico and the West Indies to Uruguay in South America. It is rarely found in California. Few records exist for its

occurrence in the state, and no roosts for this species have been identified to date. It is a colonial roosting species that prefers rugged cliff faces, slopes, and outcrops; up to 150 individuals have been observed in roost sites. Roosts are rarely found in human structures. Like most bat species, it can be found in a wide variety of habitats, including various woodland, desert, and scrub associations. Little is known of its habits, but it has been observed to emerge late in the evening. It eats primarily moths but will also take crickets, grasshoppers, flying ants, stink bugs, beetles, and leafhoppers. With the exception of its noticeably larger size, this species is superficially similar in appearance to the more common Brazilian free-tailed bat. It has deep reddish to dark brown overall coloration; a dark facial mask; and large, dark, forward-pointing ears that are briefly joined at the forehead. Little is known about its reproduction and development, but data suggest that each gravid female gives birth to a single offspring in late June to early July. By October, the young are nearly full-grown and are able to feed themselves. While rearing its young, the females gather in nursery colonies, while adult males gather elsewhere. Factors contributing to the decline of this species are not well known.

The big free-tailed bat has a LOW potential to occur within the TL 637 ROW. CNDDDB lists two records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*) SSC, NCCP-Covered

The San Diego black-tailed jackrabbit is listed as a California SSC and is covered under the NCCP. It is found on coastal slopes from Kern County, California, south into Baja California, Mexico, between sea level and approximately 3,000 feet amsl. It occurs in a variety of habitats but prefers intermediate canopy stages of shrub habitats, grasslands, and open scrub along herbaceous and tree edges within coastal sage scrub habitats in southern California. It also occurs on agricultural lands. This species does not typically burrow but sits in depressions called forms at the bases of shrubs by day. It is chiefly nocturnal and is an opportunistic forager that feeds on a variety of herbaceous matter, depending on plant availability and time of year. Reasons for decline include habitat loss, fragmentation, and disease outbreaks.

The San Diego black-tailed jackrabbit has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low to moderate quality suitable habitat.

Dulzura (California) Pocket Mouse (*Chaetodipus californicus femoralis*) SSC, NCCP-Covered

The Dulzura pocket mouse is a California SSC and is covered under the NCCP. The range of this species includes the western slope of the Peninsular Range of California from Riverside County into northern Mexico. Scattered locations are also known in the Camp Pendleton area. Dulzura pocket mouse habitat includes chaparral, dense coastal sage scrub slopes, and, occasionally, desert grasslands. It is a large, brownish grey pocket mouse, with distinct white bristles on its rump and a brownish line on its side. The underside is yellowish white, and its tail is brownish above and whitish below with a prominent tuft. It produces one litter per year of two to five young born from March through June.

The Dulzura pocket mouse (NCCP covered species) has a MODERATE potential to occur within the TL 637 ROW. CNDDDB lists three records of occurrence within 3 miles of the ROW, and the ROW contains moderate quality suitable habitat.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*) SSC, NCCP-Covered

The northwestern San Diego pocket mouse is a California SSC and is covered under the NCCP. Its range includes western Riverside, southwestern San Bernardino, eastern Orange, and San Diego counties in California, as well as northwestern Baja California, Mexico. This species prefers sage scrub, chaparral, and non-native grasslands in association with rocks or coarse gravel (McClenaghan 1983; Bleich 1973). The northwestern San Diego pocket mouse has relatively small ears and yellowish or orange hair on its sides contrasting with a dark brown back (Lackey 1996). Primarily a granivore, this pocket mouse will occasionally eat herbaceous forbs, green grasses, and insects during certain seasons. Habitat fragmentation and development are primary threats to this species.

The northwestern San Diego pocket mouse has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low to moderate quality habitat to support this species.

Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*) SSC, NCCP-Covered

The pallid San Diego pocket mouse is a California SSC and is covered under the NCCP. It is found on the margins of the Mojave Desert in California, on the northern slopes of the San Bernardino Mountains, in high elevations of eastern San Diego County, and on the edge of the Colorado Desert, south to the Mexican boundary. It is especially known to occur in arid, desert border areas of San Diego County, in Riverside County southwest of Palm Springs, in San Bernardino County from Cactus Flat to Oro Grande, and east to Twentynine Palms. It prefers drier environments of the higher elevations and plateaus; and it is found up to 6,000 feet in elevation at Cactus Flat, along the north slope of the San Bernardino Mountains. It tends to occur in sandy, herbaceous areas, usually in association with rocks or coarse gravel (Grinnell 1933; Miller and Stebbins 1964). This species is found in a wide variety of habitats, including dry alluvial fans, dry desert slopes, sparse scrublands and grasslands, grassland/chaparral/sage scrub ecotones, redshank chaparral, and pinyon-juniper woodlands. Pallid San Diego pocket mouse densities have been recorded as high as 39 per hectare (Lackey 1996). This species is similar in appearance to *C.f. fallax* but is lighter in overall coloration. Population declines may be due to urban and agricultural development.

The pallid San Diego pocket mouse can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW, and the ROW lacks suitable habitat to support this species.

Stephens' Kangaroo Rat (*Dipodomys stephensi*) FE, ST, NCCP-Covered

The Stephens' kangaroo rat (SKR) is a federally listed as endangered and state listed as threatened species, and is covered under the NCCP. Current populations exist only in the San Jacinto Valley, western Riverside County, and northwestern San Diego County, California. This species generally occurs in both non-native annual and native perennial grasslands with sparse perennial vegetation as well as in sparse coastal sage scrub and sagebrush communities with sparse canopy coverage. Plant species may include buckwheat (*Eriogonum* spp.), chamise, brome grasses, and filarees (*Erodium* spp.). Although it can burrow into firm soil, it prefers areas with well-drained, gravelly or sandy soils for digging its burrows. It can live indefinitely without water, subsisting on dry seeds that it often stores in its burrows for later consumption. It also consumes some green vegetation and insects when available. This species physically resembles other kangaroo rat species in having long hind legs; small front legs and feet;

brown upper parts; a white belly; and a long, tufted tail. Stephens' kangaroo rat is threatened by the continued destruction, fragmentation, and degradation of its habitat through human and human-induced activities such as the clearing of land for urban and suburban development, agriculture, water projects, military activities, wildland or prescribed fires, off-road vehicle use, and to a lesser degree, by livestock grazing and the invasion of non-native plant species (Montgomery 1990-2010; Montgomery et al. 1996).

The Stephens' kangaroo rat can be considered ABSENT from the TL 637 ROW. CNDDDB lists no records of occurrence within 3 miles of the ROW. Stephen J. Montgomery, a biologist permitted by USFWS (Permit TE45541-10) and CDFW (Memorandum of Understanding) conducted habitat assessments surveys within the ROW for SKR in 2010. No sign was observed. No populations of Stephens' kangaroo rat have been reported for the southern parts of San Diego County south of the area of Ramona. Please see *Stephens' Kangaroo Rat Focused Survey Report for the San Diego Gas & Electric Company Cleveland National Forest Master Services Permit Project San Diego County, California* prepared by Chambers Group (2011g).

San Diego Desert Woodrat (*Neotoma lepida intermedia*) SSC, NCCP-Covered

The San Diego desert woodrat is a California SSC that occurs in southern California from San Diego County to San Luis Obispo County and is covered under the NCCP. The San Diego desert woodrat inhabits moderate to dense canopies in a variety of shrub and desert habitats, especially in rock outcrops, rocky cliffs, and slopes. The desert woodrat is often associated with large cactus patches (Montgomery 1998); within coastal sage scrub communities, it almost is invariably associated with prickly pear (*Opuntia littoralis*). This species is also found in rocky outcroppings and boulder-covered hillsides in chaparral or oak woodlands.

The San Diego desert woodrat (NCCP covered species) has a MODERATE potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains moderate quality suitable habitat to support this species.

Southern Grasshopper Mouse (*Onychomys torridus ramona*) SSC, NCCP-Covered

The southern grasshopper mouse is a California SSC and is covered under the NCCP. It occurs throughout desert and semi-arid habitats in the southwestern United States and much of Mexico, including western Nevada, the southern portions of California, Arizona, and New Mexico, northern Baja California, western Texas, and south to central Mexico (Hall 1981). The subspecies *ramona* is restricted to coastal southern California, with marginal records for Mint Canyon west of Palmdale, San Fernando, Riverside, Valle Vista, Warner Pass, La Puerta Valley, Jacumba, Santee Mountains, and the mouth of the Tijuana River Valley (Hall 1981). The grasshopper mouse, rangewide, is often found in low, arid scrub and semi-arid scrub vegetation; but this subspecies is found in grasslands and sparse sage scrub habitats. It nests in burrows often dug by kangaroo rats and pocket gophers, but it may dig its own burrows in sandy or other friable substrates (Baily and Sperry 1929; Stapp 1997). Specific habitat requirements of the southern grasshopper mouse generally are unknown, but Stapp (1997) found that grasshopper mice use open areas and microhabitats dominated by gopher mounds and burrows. Habitat loss and degradation are the primary threats to this species.

The southern grasshopper mouse has a LOW potential to occur within the TL 637 ROW. Although CNDDDB lists no records of occurrence within 3 miles of the ROW, the ROW contains low quality suitable habitat to support this species.

American Badger (*Taxidea taxus*) SSC, NCCP-Covered

The American badger is a California SSC and is covered under the NCCP. This carnivorous species ranges over most of the western U.S and upper midwestern United States south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, montane meadows, sparse scrublands, and deserts. It prefers friable soils for burrowing and relatively open, uncultivated ground. Prey items include gophers, ground squirrels, marmots, kangaroo rats, other rodents, and the occasional reptile or amphibian. This tenacious mammal may weigh up to 25 pounds and is easily recognized by its overall yellowish gray coloration, the white stripe on top of its head, white cheeks, and black feet with noticeably long front claws. It is a heavy-bodied animal with short legs and a characteristic pigeon-toed gait. It is chiefly nocturnal, but it is often seen by day as well. It gives birth to two to five young anywhere from February to May, depending on its altitude and latitude. Threats to this species include habitat loss to agriculture, housing and other land conversions, and illegal hunting.

The American badger has a MODERATE potential to occur within the TL 637 ROW. CNDDDB lists three records of occurrence within 3 miles of the ROW, the closest being approximately 0.5 mile from the ROW. In addition, the ROW contains moderate quality suitable habitat to support this species.

5.5. SPECIAL STATUS PLANTS WITHIN BLM LANDS

Portions of the Survey Area exist within BLM lands under jurisdiction of BLM (Palm Springs/South Coast Field Office). Approximately 40.4 acres of the Survey Area fall within BLM Lands. Approximately 10 poles (R66 to P68, P75 to P81) on TL 637 located in the northeast area of the proposed project Survey Area fall within BLM lands referred to as the Mt. Gower Preserve. Descriptions of the sensitive plant species and general areas identified during the focused plant surveys are found below.

During the literature search, 67 BLM sensitive species were identified as having a potential to occur within the Survey Area on BLM Lands. Of these 67 BLM species identified, 20 are not known to occur within San Diego County; therefore, these species are considered absent from BLM lands within the Survey Area:

- Braunton's milk-vetch (*Astragalus brauntonii*) – FE, CRPR 1B.1, BLMS
- Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*) – FE, CRPR 1B.2, BLMS
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) – FT, SE, CRPR 1B.2, BLMS
- triple-ribbed milk-vetch (*Astragalus tricarinatus*) – FE, CRPR 1B.2, BLMS
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) – FE, CRPR 1B.1, BLMS
- Mt. Gleason paintbrush (*Castilleja gleasoni*) – RARE, CRPR1B.2, BLMS
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*) – CRPR 1B.1, BLMS
- Santa Susana tarplant (*Deinandra minthornii*) – RARE, CRPR 1B.2, BLMS
- beach spectaclepod (*Dithyrea maritima*) – ST, CRPR 1B.1, BLMS
- slender-horned spineflower (*Dodecahema leptoceras*) – FE, SE, CRPR 1B.1, BLMS
- marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*) – FT, RARE, CRPR, BLMS
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) – FE, ST, CRPR 1B.1, BLMS
- Parish's daisy (*Erigeron parishii*) – FT, CRPR 1B.1, BLMS

- Alvin Meadow bedstraw (*Galium californicum* ssp. *primum*) – CRPR 1B.2, BLMS
- San Gabriel bedstraw (*Galium grande*) – CRPR 1B.2, BLMS
- Robison's monardella (*Monardella robisonii*) – CRPR 1B.3, BLMS
- Latimer's woodland-gilia (*Saltugilia latimeri*) – CRPR1B.2, BLMS
- Orocopia sage (*Salvia greatae*) – CRPR 1B.3, BLMS
- Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*) – CRPR 1B.2, BLMS
- Mecca aster (*Xylorhiza cognata*) – CRPR 1B.2, BLMS

Of the 67 BLM Sensitive Species identified during the literature search, 47 BLM Sensitive Species are known to occur within San Diego County. Of these 47 sensitive species, six — San Diego milk-vetch, Orcutt's brodiaea, Palmer's goldenbush, San Bernardino aster, long-spined spineflower, and Parry's tetracoccus — were results from CNDDB and CNPSEI database search of the TL 637 Survey Area and have been described in the previous section. The remaining 39 sensitive species are considered absent from the Survey Area. Only three of the BLM Sensitive Species are considered to have a low potential to occur within project Survey Area. The 41 BLM Sensitive Species known to occur in San Diego County and their potential to occur on the project Survey Area are listed below. Although these species below were only addressed for the poles on BLM lands, these plants were also searched for during the focused plant surveys within the entire project Survey Area.

Chaparral Sand-Verbena (*Abronia villosa* var. *aurita*) CRPR 1B.1, BLMS

Chaparral sand-verbena is an annual herb in the Nyctaginaceae family that flowers between January and September. This species favors sandy soils in chaparral, coastal scrub, and desert dune habitats. Chaparral sand-verbena can be found at elevations between 250 to 5,250 feet (75 to 1,600 m) amsl. This species is threatened by non-native plants, alteration of fire regimes, road maintenance, flood control activities, vehicles, and development (CNPS 2012). Chaparral sand-verbena is considered a sensitive species by the BLM.

Chaparral sand-verbena is considered ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Munz's Onion (*Allium munzii*) FE, ST, CRPR 1B.1, BLMS

Munz's onion is a perennial, bulbiferous herb in the Themidaceae family that flowers between March and May. This species favors mesic, clay soils in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grassland habitats. Munz's onion can be found at elevations between 975 to 3,510 feet (297 to 1,070 m) amsl. This species is threatened by development, clay mining, agriculture, grazing, vehicles, and non-native plants (CNPS 2012). Munz's onion is considered a sensitive species by the BLM.

Munz's onion is considered ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

San Diego Ambrosia (*Ambrosia pumila*) FE, CRPR 1B.1, BLMS, NCCP-Covered

San Diego ambrosia is a perennial, rhizomatous herb in the Asteraceae family that flowers between April and October. This species favors sandy loam or clay, often in disturbed alkaline soils in chaparral coastal scrub, valley and foothill grassland, and vernal pool habitats. San Diego ambrosia can be found at elevations between 65 to 1,360 feet (20 to 415 m) amsl. This species is threatened by development, non-native plants, vehicles, road maintenance, and foot traffic (CNPS 2012). San Diego ambrosia is considered a sensitive species by BLM.

San Diego ambrosia is considered ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Otay Manzanita (*Arctostaphylos otayensis*) CRPR 1B.2, BLMS

Otay manzanita is a perennial, evergreen shrub in the Ericaceae family that flowers between January and April. This species favors metavolcanic soils in chaparral and cismontane woodland. Otay manzanita can be found at elevations between 900 and 5,600 feet (275 to 1,700 m) amsl. This species is threatened by development and frequent wildfires (CNPS 2012). Otay manzanita is considered sensitive by the BLM.

Otay manzanita is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Dean's Milk-Vetch (*Astragalus deanei*) CRPR 1B.1, BLMS

Dean's milk-vetch is a perennial herb in the Fabaceae family that flowers between February and May. This species often grows in chaparral, cismontane woodland, coastal scrub, and riparian forest. Dean's milk-vetch can be found at elevations between 250 and 2,200 feet (76 to 670 m) amsl. This species is known from fewer than 15 occurrences and from fewer than 10 locations in Diegan sage scrub, chaparral, and riparian communities, particularly southern oak woodlands. This species is seriously threatened by development, vegetation/fuel management activities, foot traffic, competition from non-native plants, and road maintenance (CNPS 2012). Dean's milk-vetch is considered sensitive by the BLM.

Dean's milk-vetch is presumed ABSENT from BLM lands on the ROW within TL 637. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Jacumba Milk-Vetch (*Astragalus douglasii* var. *perstrictus*) CRPR 1B.2, BLMS

Jacumba milk-vetch is a perennial herb in the Fabaceae family that flowers between April and June. This species grows on rocky soils of chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, and valley and foothill grassland. Jacumba milk-vetch can be found at elevations between 3,000

and 4,500 feet (914 to 1,371 m) amsl. This species is threatened by development and competition from non-native plants (CNPS 2012). Jacumba milk-vetch is considered sensitive by the BLM.

Jacumba milk-vetch is presumed ABSENT from the ROW on BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Encinitas Baccharis (*Baccharis vanessae*) FT, SE, CRPR 1B.1, BLMS, NCCP-Covered

Encinitas baccharis is a perennial, deciduous shrub in the Asteraceae family that flowers between August and November. This species often grows in sandstone soils in maritime chaparral and cismontane woodland. Encinitas baccharis can be found at elevations between 200 and 2,300 feet (60 to 720 m) amsl. This species is believed to be extirpated from the Encinitas area. Remaining populations are threatened by development and recreational activity (CNPS 2012). Encinitas baccharis is considered sensitive by the BLM.

Encinitas baccharis is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Nevin's Barberry (*Berberis nevinii*) FE, SE, CRPR 1B.1, BLMS

Nevin's barberry is a perennial, evergreen shrub in the Berberidaceae family that flowers between March and June. This species often grows in sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Nevin's barberry can be found at elevations between 900 and 2,700 feet (274 to 825 m) amsl. Many historical occurrences of this species have been extirpated. Nevin's barberry is threatened by alteration of fire regimes, development, and road maintenance. This species may also be threatened by illegal dumping, fire suppression, and vehicles (CNPS 2012). Nevin's barberry is considered sensitive by the BLM.

Nevin's barberry is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

San Diego Goldenstar (*Bloomeria clevelandii*) CRPR 1B.1, BLMS

San Diego goldenstar is a perennial, bulbiferous herb in the Themidaceae family that flowers between April and May. This species often grows in clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. San Diego goldenstar can be found at elevations between 160 and 1,525 feet (50 to 465 m) amsl. This species is threatened by urbanization, road construction, vehicles, non-native plants, and illegal dumping (CNPS 2012). San Diego goldenstar is considered sensitive by the BLM.

San Diego goldenstar is considered ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation range found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Thread-Leaved Brodiaea (*Brodiaea filifolia*) FT, SE, CRPR 1B.1, BLMS, NCCP-Covered

Thread-leaved brodiaea is a perennial, bulbiferous herb in the Themidaceae family that flowers between March and June. This species often grows in clay soils within openings in chaparral, cismontane woodland, coastal scrub, playa, valley and foothill grassland, and vernal pool habitats. Thread-leaved brodiaea can be found at elevations between 80 and 3,675 feet (25 to 1,120 m) amsl. This species is seriously threatened by residential development, agriculture, foot traffic, grazing, illegal dumping, non-native plants, vehicles, road construction, and fuelbreak maintenance. Hybridization of this species with *B. orcuttii* and *B. terrestris* ssp. *kernensis* is facilitated by European honeybees (CNPS 2012). Thread-leaved brodiaea is considered sensitive by the BLM and is a NCCP-Covered species.

Thread-leaved brodiaea has a LOW potential to occur on BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Dunn's Mariposa Lily (*Calochortus dunnii*) RARE, CRPR 1B.2, BLMS

Dunn's mariposa lily is a perennial, bulbiferous herb in the Themidaceae family that flowers between April and June. This species often grows in gabbroic or metavolcanic soils and rocky, closed-cone, coniferous forest, chaparral, and valley and foothill grassland. Dunn's mariposa lily can be found at elevations between 600 and 6,000 feet (185 to 1,830 m) amsl. This species is threatened by development, competition from non-native plants, and vehicles (CNPS 2012). Dunn's mariposa lily is considered sensitive by the BLM.

Dunn's mariposa lily is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Lakeside Ceanothus (*Ceanothus cyaneus*) CRPR 1B.2, BLMS

Lakeside ceanothus is an evergreen shrub in the Rhamnaceae family that flowers between April and June. This species often grows in sandy or rocky openings of closed-cone coniferous forests and chaparral habitats. Lakeside ceanothus can be found at elevations between 770 and 2,550 feet (235 to 777 m) amsl. This species is threatened by development (CNPS 2012). Lakeside ceanothus is considered sensitive by the BLM.

Lakeside ceanothus is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Flat-Seeded Spurge (*Chamaesyce platysperma*) CRPR 1B.2, BLMS

Flat-seeded spurge is an annual herb in the Euphorbiaceae family that flowers between February and September. This species often grows in sandy soils within Sonoran desert dune habitat. Flat-seeded spurge can be found at elevations between 200 and 330 feet (60 to 100 m) amsl. This species is threatened by development (CNPS 2012). Flat-seeded spurge is considered sensitive by the BLM.

Flat-seeded spurge is presumed ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Orcutt's Spineflower (*Chorizanthe orcuttiana*) FE, SE, CRPR 1B.1, BLMS

Orcutt's spineflower is an annual herb in the Polygonaceae family that flowers between March and May. This species grows in sandy soils within openings of closed-cone coniferous forest, maritime chaparral, and coastal scrub habitats. Orcutt's spineflower can be found at elevations between 200 and 330 feet (60 to 100 m) amsl. This species is threatened by development (CNPS 2012). Orcutt's spineflower is considered sensitive by the BLM.

This species is presumed ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

White-Bracted Spineflower (*Chorizanthe xanti* var. *leucotheca*) CRPR 1B.2, BLMS

White-bracted spineflower is an annual herb in the Polygonaceae family that flowers between April and June. This species often grows in sandy or gravelly alluvial fan soils within coastal scrub, Mojavean desert scrub, and pinyon and juniper woodland habitats. White-bracted spineflower can be found at elevations between 980 and 3,940 feet (300 to 1,200 m) amsl. This species is threatened by development, flood control projects, mining, and vehicles (CNPS 2012). White-bracted spineflower is considered sensitive by the BLM.

White-bracted spineflower is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Gander's Cryptantha (*Cryptantha ganderi*) CRPR 1B.1, BLMS

Gander's cryptantha is an annual herb in the Boraginaceae family that flowers between February and May. This species often grows in sandy soils of Sonoran desert dune habitat. Gander's cryptantha can be found at elevations between 520 and 1,315 feet (160 to 1,315 m) amsl. This species is threatened by development and vehicles (CNPS 2012). Gander's cryptantha is considered sensitive by the BLM.

Gander's cryptantha is presumed ABSENT on BLM lands within the TL 637 ROW. This species occurs outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Munz's Cholla (*Cylindropuntia munzii*) CRPR 1B.3, BLMS

Munz's cholla is a perennial stem succulent in the Cactaceae family that flowers during May. This species often grows in sandy soils of Sonoran desert scrub habitat. Munz's cholla can be found at elevations between 490 and 1,970 feet (150 to 600 m) amsl. Some populations of this species are threatened by military activities (CNPS 2012). Munz's cholla is considered sensitive by the BLM.

Munz's cholla is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Otay Tarplant (*Deinandra conjugens*) FT, SE, CRPR 1B.1, BLMS

Otay tarplant is an annual herb in the Asteraceae family that flowers between May and June. This species grows on clay soils within coastal scrub, and valley and foothill grassland habitats. Otay tarplant is found at elevations between 80 and 980 feet (25 to 300 m) amsl. This species is threatened by development, agriculture, vehicles, illegal dumping, non-native plants, habitat disturbance, and Border Patrol activities (CNPS 2012). Otay tarplant is considered sensitive by the BLM.

Otay tarplant is presumed ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation range found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Tecate Tarplant (*Dienandra floribunda*) CRPR 1B.2, BLMS

Tecate tarplant is an annual herb in the Asteraceae family that flowers between August and October. This species grows in chaparral and coastal scrub habitats. Tecate tarplant can be found at elevations between 230 and 4,000 feet (70 to 1,219 m) amsl. This species is threatened by development and grazing (CNPS 2012). Tecate tarplant is considered sensitive by the BLM.

Tecate tarplant is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Cuyamaca Larkspur (*Delphinium hesperium* ssp. *cuyamacae*) Rare, CRPR 1B.2, BLMS

Cuyamaca larkspur is a perennial herb in the Ranunculaceae family that flowers between May and July. This species often grows in mesic soils of lower montane coniferous forest, meadows and seeps, and vernal pools. Cuyamaca larkspur can be found at high elevations between 4,000 and 5,350 feet (1,219 to 1,630 m) amsl. This species is threatened by development, grazing, and recreational activities (CNPS 2012). Cuyamaca larkspur is considered sensitive by the BLM.

Cuyamaca larkspur is presumed ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation range found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Many-Stemmed Dudleya (*Dudleya multicaulis*) CRPR 1B.2, BLMS

Many-stemmed dudleya is a perennial herb in the Crassulaceae family that flowers between April and July. This species grows in clay soils within chaparral, coastal scrub, valley and foothill grassland habitats. Laguna Mountain aster can be found at elevations between 50 and 2,600 feet (15 to 790 m) amsl. This species is threatened by development, road construction and maintenance, fire suppression, non-native plants, mining, grazing, and recreation (CNPS 2012). Many-stemmed dudleya is considered sensitive by the BLM.

Many-stemmed dudleya has a LOW potential to occur within the TL 637 ROW on BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Variegated Dudleya (*Dudleya variegata*) CRPR 1B.2, BLMS

Variegated dudleya is a perennial herb in the Crassulaceae family that flowers from April to June. This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet (3 to 580 m) amsl. Threats to this species include development and grazing (CNPS 2012). Variegated dudleya is considered sensitive by the BLM.

Variegated dudleya is considered ABSENT from BLM lands within the TL 637 ROW. This species occurs outside the elevation range found within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Harwood's Eriastrum (*Eriastrum harwoodii*) CRPR 1B.2, BLMS

Harwood's eriastrum is an annual herb in the Polemoniaceae family that flowers from March to June. This species is found in sandy soils within desert dune habitats. Harwood's eriastrum occurs at elevations between 410 and 3,000 feet (125 to 915 m) amsl. This species is threatened by mining, non-native plants, and vehicles and is potentially threatened by solar energy development (CNPS 2012). Harwood's eriastrum is considered sensitive by the BLM.

Harwood's eriastrum is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Mexican Flannelbush (*Fremontodendron mexicanum*) FE, Rare, CRPR 1B.1, BLMS

Mexican flannelbush is a perennial, evergreen shrub in the Malvaceae family that flowers between March and June. This species often grows in gabbroic, metavolcanic, or serpentinite soils in closed-cone coniferous forest, chaparral, and cismontane woodland habitats. Mexican flannelbush can be found at elevations between 100 and 8,038 feet (30 to 2,449 m) amsl. Threats to this species include urbanization (CNPS 2011). Mexican flannelbush is considered sensitive by the BLM.

Mexican flannelbush is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been

recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Orcutt's Hazardia (*Hazardia orcutti*) FC, ST, CRPR 1B.1, BLMS

Orcutt's hazardia is a perennial, evergreen shrub in the Asteraceae family that flowers between August and October. This species grows in clay soils in maritime chaparral, coastal scrub habitats. Orcutt's hazardia can be found at elevations between 260 and 280 feet (80 to 85 m) amsl. Threats to this species include recreational activities, foot traffic, and urbanization (CNPS 2012). Orcutt's hazardia is considered sensitive by the BLM.

Orcutt's hazardia is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Tecate Cypress (*Hesperocyparis forbesii*) CRPR 1B.1, BLMS

Tecate cypress is a perennial, evergreen tree in the Cupressaceae family. This species often grows in clay, gabbroic, or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Tecate cypress can be found at elevations between 840 and 4,900 feet (256 to 1,493 m) amsl. This species is threatened by alteration of fire regimes and mining and by development in both Orange and Riverside counties. In San Diego County, Tecate cypress is protected in part at Otay Mountain (CNPS 2012). Tecate cypress is considered sensitive by BLM.

Tecate cypress is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the circuit ROW; however, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Laguna Mountains Alumroot (*Heuchera brevistaminea*) CNPS 1B.3, BLMS

Laguna Mountains alumroot is a perennial, rhizomatous herb in the Saxifragaceae family that flowers from April through September. This species grows in rocky soils in broadleaved upland forests, chaparral, cismontane woodlands, and riparian forests at elevations between 4,495 and 6,562 feet (1,370 to 2,000 m) amsl (CNPS 2012). Laguna Mountain alumroot is considered sensitive by the BLM.

This species is presumed ABSENT from BLM lands within the TL 637 ROW. The ROW is outside the elevation range for this species, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Gander's Pitcher Sage (*Lepechinia ganderi*) CRPR 1B.3, BLMS

Gander's pitcher sage is a perennial shrub in the Lamiaceae family that flowers between June and July. This species grows in gabbroic or metavolcanic soils in closed-cone coniferous forest and chaparral, coastal scrub, and valley and foothill grassland habitats. Gander's pitcher sage can be found at elevations between 1,000 and 3,300 feet (305 to 1005 m) amsl. Threats to this species include development (CNPS 2012). Gander's pitcher sage is considered sensitive by the BLM.

Ganders' pitcher sage has a LOW potential to occur on BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW.

Borrego Valley Pepper-grass (*Lepidium flavum* var. *felipense*) CRPR 1B.2, BLMS

Borrego Valley pepper-grass is an annual herb in the Brassicaceae family that flowers between March and May. This species grows in sandy soils within pinyon and juniper woodland and Sonoran desert scrub habitats. Borrego Valley pepper-grass can be found at elevations between 1,500 and 2,750 feet (455 to 840 m) amsl. Threats to this species include recreational activities and vehicles (CNPS 2012). Borrego Valley pepper-grass is considered sensitive by the BLM.

Borrego Valley pepper-grass is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Robinson's Pepper-Grass (*Lepidium virginicum* var. *robinsonii*) CNPS 1B.2, BLMS

Robinson's pepper-grass is an annual herb in the Brassicaceae family that flowers between January and April. This species grows in openings in coastal sage scrub and chaparral vegetation below 1,600 feet (500 m) amsl (CNPS 2012). Robinson's pepper-grass is considered sensitive by the BLM.

Robinson's pepper-grass is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Parish's Meadowfoam (*Limnanthes gracilis* ssp. *parishii*) SE, CRPR 1B.2, BLMS

Parish's meadowfoam is an annual herb in the Limnanthaceae family that flowers between April and June. This species often grows in mesic soils in lower montane coniferous forest, meadows and seeps, and vernal pool habitats. Parish's meadowfoam can be found at elevations between 2,000 and 6,600 feet (609 to 2,011 m) amsl. This species is threatened by altered hydrology, grazing, and recreational development (CNPS 2012). Parish's meadowfoam is considered sensitive by the BLM.

Parish's meadowfoam is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Little San Bernardino Mountains Linanthus (*Linanthus maculatus*) CRPR 1B.2, BLMS

Little San Bernardino Mountains linanthus is an annual herb in the Polemoniaceae family that flowers between March and May. This species grows in sandy soils within desert dune, Joshua tree woodland, Mojavean desert scrub and Sonoran desert scrub habitats. Little San Bernardino Mountains linanthus can be found at elevations between 640 and 6,800 feet (195 to 2,075 m) amsl. This species is threatened

by development, vehicles, and dumping (CNPS 2012). Little San Bernardino Mountains linanthus is considered sensitive by the BLM.

Little San Bernardino Mountains linanthus is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Orcutt's Linanthus (*Linanthus orcuttii*) CRPR 1B.3, BLMS

Orcutt's linanthus is an annual herb in the Polemoniaceae family that flowers between May and June. This species often grows in the openings of chaparral, lower montane coniferous forest, and pinyon and juniper woodland habitats. Orcutt's linanthus can be found at higher elevations between 3,000 and 7,037 feet (914 to 2,144 m) amsl. This species is threatened by foot traffic and recreational activities (CNPS 2012). Orcutt's linanthus is considered sensitive by the BLM.

Orcutt's linanthus is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Mountain Springs Bush Lupine (*Lupinus excubitus* var. *medius*) CRPR 1B.3, BLMS

Mountain Springs bush lupine is a perennial shrub in Fabaceae family that flowers between March and May. This species grows on dry, sandy, gently sloping canyon washes, sandy soil pockets, and flats in steeper slopes and drainages. Mountain Springs bush lupine is often found in pinyon and juniper woodland, as well as Sonoran desert scrub, at elevations between 1,394 and 4,495 feet (125 to 1,370 m) amsl (CNPS 2011). Mountain Springs bush lupine is considered sensitive by the BLM.

Mountain Springs bush lupine is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Jennifer's Monardella (*Monardella stoneana*) CRPR 1B.2, BLMS

Jennifer's monardella is a perennial herb in Lamiaceae family that flowers between June and September. This species grows in rocky intermittent streambeds within closed-cone coniferous forest, chaparral coastal scrub, and riparian scrub habitats. Jennifer's monardella occurs at elevations between 30 and 2,600 feet (10 to 90 m) amsl. This species is threatened by urbanization in portions of its range (CNPS 2012). Jennifer's monardella is considered sensitive by the BLM.

Jennifer's monardella is presumed ABSENT from BLM lands within the TL 637 ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Dehesa Nolina (*Nolina interrata*) CRPR 1B.1, BLMS

Dehesa nolina is a perennial herb in Nolinaceae family that flowers between June and July. This species typically grows on rocky hillsides or ravines on ultramafic soils. Dehesa nolina can be found in chaparral habitats at elevations between 591 and 2,805 feet (180 to 855 m) amsl. This species is threatened by residential development, vehicles, altered fire regimes, and horticultural collecting (CNPS 2012). Dehesa nolina is considered sensitive by the BLM.

Dehesa nolina is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

California Orcutt Grass (*Orcuttica californica*) FE, SE, CRPR 1B.1, BLMS, NCCP-Covered

California Orcutt grass is an annual herb in the Poaceae family. This species flowers between April and August on drying mud flats. Habitat includes vernal pools at elevations between 50 to 2,200 feet (15 to 670 m) amsl. This species is threatened by agriculture, development, non-native plants, grazing, and vehicles (CNPS 2012). California Orcutt grass is considered sensitive by the BLM and a NCCP Covered species in San Diego.

California orcutt grass is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW; and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Gander's Ragwort (*Packera ganderi*) Rare, CRPR 1B.2, BLMS

Gander's ragwort is a perennial herb in the Asteraceae family that flowers between April and June. This species often grows in gabbro soils of chaparral, especially after a recent burn. Gander's ragwort can be found at elevations between 1,300 and 4,000 feet (396 to 1,219 m) amsl. This species is known from fewer than 20 occurrences and is threatened by recreational activities, vehicles, and trampling (CNPS 2012). Gander's ragwort is considered sensitive by the BLM.

Gander's ragwort is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Otay Mesa Mint (*Pogogyne nudiuscula*) CRPR 1B.1, BLMS

Otay Mesa mint is a perennial herb in the Lamiaceae family that flowers between May to June. This species often grows in clay soils within vernal pool habitats. Otay Mesa mint can be found at elevations between 295 and 820 feet (90 to 250 m) amsl. This species is known from fewer than 20 occurrences and is threatened by recreational activities, vehicles, and trampling (CNPS 2012). Otay Mesa mint is considered sensitive by the BLM.

Otay mesa mint is presumed ABSENT from BLM lands within the TL 637 ROW. This species is found outside the elevation range found within the ROW. No suitable habitat for this species is present within the ROW, and no historical occurrences of this species have been recorded within 3 miles of the ROW.

Moreno Currant (*Ribes canthariforme*) CRPR 1B.3, BLMS

Moreno currant is a perennial, deciduous shrub in the Grossulariaceae family that flowers between February and April. This species often grows in chaparral and riparian scrub. Moreno currant can be found at elevations between 1,113 and 3,937 feet (339 to 1,199 m) amsl. This species is threatened by recreational activities and vehicles (CNPS 2010). Moreno currant is considered sensitive by the BLM.

Moreno currant is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Southern Jewelflower (*Streptanthus campestris*) CNPS 1B.3, BLMS

Southern jewelflower is a perennial herb in the Brassicaceae family that flowers between May and July and, on occasion, as early as April. This species often grows in rocky soils of chaparral, lower montane coniferous forest, and pinyon and juniper woodland. Southern jewelflower can be found at elevations between 2,950 and 7,550 feet (899 to 2,301 m) amsl (CNPS 2012). Southern jewelflower was included in the list of targeted plant species for which surveys were performed. Southern jewelflower is considered sensitive by the BLM.

Southern jewelflower is presumed ABSENT from BLM lands within the TL 637 ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the ROW. Furthermore, this species was not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

5.6. SPECIAL STATUS WILDLIFE WITHIN BLM LANDS

Portions of TL 637 exist within BLM lands under jurisdiction of BLM (Palm Springs/South Coast Field Office). Approximately 40.4 acres of the Survey Area fall within BLM Lands. Ten poles on TL 637 fall within BLM lands (R66 to P68, P75 to P81). Descriptions of the sensitive wildlife species and general areas identified during the general and focused surveys are found below.

The following 14 BLMS species do not have suitable habitat present on the project Survey Area, have no records of occurrence within 3 miles of the TL 637 ROW, or the ROW is outside their known ranges; therefore, these species are considered absent from BLM lands within the proposed project Survey Area:

- barefoot banded gecko (*Coleonx switaki*) ST, BLMS
- foothill yellow-legged frog (*Rana boylei*) BLMS
- Colorado desert fringe-toed lizard (*Uma notata notate*) SSC, BLMS
- Mojave fringe-toed lizard (*Uma scoparia*) SSC, BLMS
- flat-tailed horned lizard (*Phrynosoma mcallii*) BLMS
- Gila monster (*Heloderma suspectum*) SSC, BLMS

- bald eagle (*Haliaeetus leucocephalus*) FD, SE, FPS, BLMS
- elf owl (*Micrathene whitneyi*) SE, BLMS
- gray vireo (*Vireo vicinior*) BLMS
- Bendire's thrasher (*Toxostoma bendirei*) SSC, BLMS
- cave myotis (*Myotis velifer*) SSC, BLMS
- spotted bat (*Euderma maculatum*) SSC, BLMS
- California leaf-nosed bat (*Macrotus californicus*) SSC, BLMS
- desert bighorn sheep (*Ovis Canadensis nelsoni*) BLMS

Of these 17 sensitive species, the following 14 species were results from CNDDDB and BLM database search of the Survey Area and have been described in the previous section.

- Western Spadefoot (*Spea [=Scaphiopus] hammondi*) SSC, BLMS
- Southwestern Pond Turtle (*Actinemys marmorata pallida*) SSC, BLMS and USFS Sensitive
- Coast (=San Diego) Horned Lizard (*Phrynosoma coronatum blainvillii*) SSC, BLMS and USFS Sensitive
- Coronado Island Skink (*Plestiodon [=Eumeces] skiltonianus interparietalis*) SSC, BLMS
- San Diego Mountain Kingsnake (*Lampropeltis zonata pulchra*) SSC, BLMS and USFS Sensitive
- Two-Striped Garter Snake (*Thamnophis hammondi*) SSC, BLMS and USFS Sensitive
- Golden Eagle (*Aquila chrysaetos*) FPS Under Bald and Golden Eagle Protection Act and CDFW, CDFW WL, BLMS
- White-Tailed Kite (*Elanus leucurus*) FPS, BLMS
- Burrowing Owl (*Athene cunicularia*) SSC, BLMS
- California Spotted Owl (*Strix occidentalis occidentalis*) SSC, BLMS and USFS Sensitive
- Tricolored Blackbird (*Agelaius tricolor*) (nesting colony) SSC, BLMS
- Pallid Bat (*Antrozous pallidus*) SSC, BLMS and USFS Sensitive
- Townsend's Big-Eared Bat (*Corynorhinus townsendii*) SSC, BLMS and USFS Sensitive
- Western Mastiff Bat (*Eumops perotis*) SSC, BLMS

The following three BLMS have low quality habitat present within the Survey Area within BLM Lands (R66 to P68, P75 to P81) and have records of occurrence within 3 miles of the TL 637 ROW.

Western Small-Footed Myotis (*Myotis ciliolabrum*) BLMS

The western small-footed myotis is a BLMS. It occurs over much of the western United States into southern Canada and Mexico from sea level to over 8,900 feet in elevation. The species is found along the California coast from Contra Costa County south to the Mexican border (Harris 1990a). It is also found on both the east and west sides of the Sierra Nevada, and in the Great Basin and desert habitats from Modoc County to San Bernardino County (Harris 1990a). It is found in a wide ecological range, from rock outcrops on open grasslands to canyons in the foothills to lower mountains with yellow pine woodlands. The western small-footed myotis prefers humid roost sites and has a high tolerance for cold. Day roosts are variable but include cracks and crevices in cliffs, beneath tree bark, in mines and caves, and occasionally in dwellings of humans (NatureServe 2011). Night roosts are under a variety of natural and human-induced structures. Hibernacula include caves, mines, and tunnels, where individuals usually hang singly, often exposed; although groups of 50 or more can inhabit a hibernation site (NatureServe 2011). Maternity colonies of 12 to 20 females and young can be found in buildings, caves, and mines

(Harris 1990a). The western small-footed myotis often associates with Townsend's big-eared bats and can be found feeding or roosting with other species of bats. This species begins foraging well before full dark. It takes a variety of insects on the wing, including moths and beetles. Reasons for observed population declines are not entirely known at this time (Harris 1990a).

The western small-footed myotis has a LOW potential to occur within the TL 637 ROW within BLM lands. CNDDDB lists seven records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

Long-Eared Myotis (*Myotis evotis*) BLMS

The long-eared myotis is a BLMS. It is found across much of western North America, from British Columbia to southern California and New Mexico. This species is found predominantly in coniferous forests, typically in higher elevations in southern areas (7,000 to 9,600 feet) but is also known to occur at sea level. The long-eared myotis often roosts in tree cavities and beneath exfoliating bark in both living trees as well as in dead snags. It is one of only two western bats to also roost at ground level in fallen trees, tree stumps, and rock crevices. The main diet of the long-eared myotis consists of insects, including moths. The long-eared myotis captures prey in flight and also captures stationary insects from the ground and off foliage (Harris 1990b; National Park System 2006).

The long-eared myotis has a LOW potential to occur within the TL 637 ROW within BLM lands. CNDDDB lists three records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

Yuma Myotis (*Myotis yumanensis*) BLMS

The Yuma myotis is a BLMS. This species is found from British Columbia south through Washington, Oregon, Arizona, New Mexico, parts of the surrounding states, and into Mexico. In California, this species is common and widespread except in the Mojave and Colorado desert regions, although it is found within the mountain ranges bordering the Colorado River Valley. It is a colonial bat species that roosts in crevices in a variety of both natural and artificial substrates. Thousands of individuals may be found in roost sites, clinging together to conserve body heat. Like most bat species, it can be found in a wide variety of habitats, although its optimal habitats are open forest and various woodland associations with sources of water over which to feed. The Yuma myotis is strongly correlated with open water, perhaps more so than any other North American bat species. This species mates in the fall and the young are born from late May to mid June. This species will feed and roost with other bat species (CDFW and CIWTG 1990b; NatureServe 2012c).

The Yuma myotis has a LOW potential to occur within the TL 637 ROW within BLM lands. CNDDDB lists six records of occurrence within 3 miles of the ROW, and the ROW contains low quality roosting habitat to support this species.

5.7. USFWS CRITICAL HABITAT AREAS

USFWS designates critical habitat for endangered and threatened species under the Federal ESA (16 USC § 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement of migration. However, the USFWS designation of critical habitat for the CAGN

specifically excluded areas within functioning HCPs, such as SDG&E's *SDG&E Subregional NCCP*. The CAGN habitat owned by SDG&E (and covered under the *SDG&E Subregional NCCP*) was determined to have greater benefits to CAGN than from lands designated as critical habitat (Federal Register 2007).

The USFWS critical habitat areas for listed species were searched using GIS shapefiles provided by USFWS within 4 miles of the TL 637 ROW alignment. Three USFWS designated critical habitat areas were identified CAGN (within the TL 637 Survey Area), and arroyo toad and San Diego fairy shrimp (outside of the TL 637 Survey Area). Approximately 50.12 acres of CAGN critical habitat is located within a 1 mile buffer survey area. From the west, the critical habitat crosses the alignment at poles P95/P96 to approximately pole P108. No CAGN were identified within these critical habitat areas. Designated critical habitat areas for arroyo toad exist outside the TL 637 Survey Area. Critical habitat for the San Diego fairy shrimp exists outside the TL 637 Survey Area just north of Ramona High School, approximately 1 mile west of the project Survey Area.

5.8. PRESERVE AREAS

The following determinations are based on Table 7.4 of SDG&E's Subregional NCCP for project sites located within the East County MSCP; where no Preserve boundaries (mapped areas) have been established, habitat of moderate, high, or very high quality shall be considered a "Preserve." Habitat quality is based on species composition and connectivity with the surrounding natural vegetation communities. Therefore, SDG&E proposes to withdraw credit from the SDG&E mitigation bank for permanent impacts to sensitive vegetation communities within a Preserve area at a 2:1 ratio and for temporary impacts to sensitive vegetation communities within a Preserve area at a 1:1 ratio. Sensitive vegetation communities include all communities described in this report with the exception of bareground, landscape/ornamental, agriculture, and disturbed vegetation communities.

Poles R66, P67, P68, P76, P77, P78, P79, P80, and P81 and the Mt. Gower HLZ are located in the Mt. Gower Preserve, previously designated as a Preserve by BLM and County of San Diego. Poles D21, P23, P24, P25, D26, P27, D28, P29, Stringing Site # 4, P30, D31, P32, D33, D34, P35, P36, P37, P38, P39, and D40 are located in Simon Preserve and are defined as a mapped Preserve. Pole locations P45, D46, P47, Stringing Site # 5, Stringing Site # 6, P48, P49, P50, P117, P118, P119, P120, P121, P122, P141, P142, P143, P144, P145, Stringing Site # 7, Stringing Site # 16, Stringing Site # 18, Stringing Site # 19, P152, P153, P154, P155, P156, P157, and P158 are located in areas that meet the definition of a Preserve.

5.9. WILDLIFE CORRIDORS

Wildlife corridors are areas that connect fragmented habitats. They serve as wildlife linkages (wildlife travel corridors) caused by changes in vegetation communities, rugged terrain, and human disturbances. These linkages may be drainages, canyons, or ridgelines that provide access to foraging areas, water, breeding sites, and dispersal areas. These corridors provide cover and shelter during travel. Disturbance to wildlife corridors such as human disturbance and development can cause harm to migrating species, cause species to exceed the population thresholds, and/or prevent healthy gene flow between populations.

Several drainage features adjacent to the proposed construction areas could potentially be used as a migration corridor for mammal species. However, the proposed construction activities would not directly impact or restrict general wildlife movement due to the temporary and intermittent locations of construction activities outside the drainage features. In addition, the new poles will be installed in a

pre-existing TL ROW. No extension of this TL is proposed; therefore, the quality of the adjacent wildlife movement corridors for terrestrial species is diminished on a temporary basis only during construction. No additional impacts to wildlife corridors are anticipated.

5.10. JURISDICTIONAL DELINEATION SURVEY

The results presented below represent the conditions of the TL 637 ROW Survey Area at the time of the investigation. The vegetation was assessed during the growing season, and no recent storm events or other indications that vegetation or soil condition had been altered were noted. The interactions of three parameters were examined in the field for hydrophytic characteristics and used to determine the presence or absence of a wetland. Details on the characteristics of the soils, hydrology, and vegetation observed within the TL 637 ROW Survey Area are described below.

5.10.1 Soils

Soils were determined in accordance with soil classification set forth by the USDA Natural Resources Conservation Service (<http://soils.usda.gov/technical/classification/osd/index.html>). The soil investigation encompassed a much larger area than the 50-foot delineation area. The following soil map units were found to occur within the TL 637 soil investigation area, an area approximately 500-feet wide from the centerline of the TL.

- **Acid igneous rock land** 15 to 75 percent slopes map unit consists of unweathered bedrock typically found on mountain flanks from 650 to 4,000 feet amsl. The profile is composed of unweathered bedrock formed from acid igneous rock. This map unit comprises 2.9 percent (14.8 acres) of the soil investigation area.
- **Anderson very gravelly sandy loam**, 9 to 45 percent slopes map unit consists of somewhat excessively drained soil typically found on alluvial fans from 350 to 1,500 feet amsl. The soil profile is typically composed of very gravelly sandy loam and very gravelly coarse sandy loam that develops from alluvium derived from schist and granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a slight hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 8.0 percent (40.1 acres) of the soil investigation area.
- **Cieneba rocky coarse sandy loam**, 9 to 30 percent slopes, eroded map unit consists of somewhat excessively drained soils typically found on hills from 500 to 4,000 feet amsl. Thirty percent of the map unit is composed of rock outcropping. The soil profile is typically composed of coarse sandy loam and weathered bedrock that develops from residuum weathered from granite and granodiorite parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 3.7 percent (18.7 acres) of the soil investigation area.
- **Cieneba very rocky coarse sandy loam**, 30 to 75 percent slopes map unit consists of somewhat excessively drained soils typically found on hills from 500 to 4,000 feet amsl. Forty five percent of the map unit is rock outcropping. The soil profile is typically composed of coarse sandy loam and weathered bedrock that develops from residuum weathered from granite and granodiorite

parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 12.8 percent (64.6 acres) of the soil investigation area.

- **Cieneba-Fallbrook rocky sandy loams**, 9 to 30 percent slopes, eroded map unit consists of somewhat excessively drained soil typically found on hills from 300 to 4,000 feet amsl. Fifteen percent of the map unit consists of rock outcropping. The soil profile is typically composed of coarse sandy loam and weathered bedrock that develops from residuum weathered from granite and granodiorite parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a slight hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.8 percent (4.0 acres) of the soil investigation area.
- **Clayey alluvial land** map unit consists of moderately well drained soil found on basin floors at 2,000 feet amsl. The soil profile is typically composed of clay that develops from alluvium derived from mixed sources parent material. This soil typically has a very slow infiltration rate (high runoff potential) when thoroughly wet. This soil typically has a severe hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 2.4 percent (12.0 acres) of the soil investigation area.
- **Crouch rocky coarse sandy loam**, 5 to 30 percent slopes map unit consists of well drained soils typically found on mountainflanks from 3,000 to 8,000 feet amsl. The soil profile is typically composed of loam, sandy loam, coarse sandy loam and weathered bedrock that develops from residuum weathered from granite and acid igneous rock parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 1.4 percent (7.2 acres) of the soil investigation area.
- **Fallbrook sandy loam**, 9 to 15 percent slopes, eroded map unit consists of well drained soils typically found on hill sideslopes from 200 to 3,500 feet amsl. The soil profile is typically composed of loam, sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum weathered from granodiorite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.9 percent (4.3 acres) of the soil investigation area.
- **Greenfield sandy loam**, 5 to 9 percent slopes map unit consists of well drained soils typically found on alluvial fans from 100 to 1,500 feet amsl. The soil profile is typically composed of loam, sandy loam, and stratified loamy coarse sand to sandy loam that develops from alluvium derived from granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.4 percent (2.0 acres) of the soil investigation area.
- **Holland fine sandy loam**, 5 to 15 percent slopes map unit consists of well drained soils typically found on mountainflanks from 1,900 to 5,000 feet amsl. The soil profile is typically composed of sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum

weathered from mica schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 3.1 percent (15.8 acres) of the soil investigation area.

- **Holland fine sandy loam**, 15 to 30 percent slopes map unit consists of well drained soils typically found on mountainflanks from 1,900 to 5,000 feet amsl. The soil profile is typically composed of sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum weathered from mica schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.7 percent (3.5 acres) of the soil investigation area.
- **Holland stony fine sandy loam**, 5 to 30 percent slopes map unit consists of well drained soils typically found on mountainflanks from 2,000 to 5,000 feet amsl. The soil profile is typically composed of stony fine sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum weathered from mica schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 11.2 percent (56.3 acres) of the soil investigation area.
- **Holland stony fine sandy loam**, 30 to 60 percent slopes map unit consists of well drained soils typically found on mountainflanks from 2,000 to 5,000 feet amsl. The soil profile is typically composed of stony fine sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum weathered from mica schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 5.0 percent (25.1 acres) of the soil investigation area.
- **Holland fine sandy loam, deep**, 2 to 9 percent slopes map unit consists of well drained soils typically found on mountainflanks from 1,000 to 5,000 feet amsl. The soil profile is typically composed of fine sandy loam, sandy loam, sandy clay loam, clay loam and weathered bedrock that develops from residuum weathered from mica schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 5.1 percent (25.7 acres) of the soil investigation area.
- **La Posta rocky loamy coarse sand**, 5 to 30 percent slopes map unit consists of somewhat excessively drained soils typically found on mountainflanks from 650 to 4,500 feet amsl. The soil profile is typically composed of loamy coarse sand, gravelly loamy coarse sand, loamy sand and weathered bedrock that develops from residuum weathered from granodiorite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 4.2 percent (20.9 acres) of the soil investigation area.
- **Loamy alluvial land** map unit consists of somewhat poorly drained soil typically found on alluvial fans from 20 to 3,100 feet amsl. The soil profile is typically composed of silt loam, silty clay loam

and clay loam that develops from residuum weathered from calcareous sandstone and shale parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a severe hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 5.7 percent (28.7 acres) of the soil investigation area.

- **Olivenhain cobbly loam**, 9 to 30 percent slopes map unit consists of well drained soil typically found on marine terraces from 100 to 600 feet amsl. The soil profile is typically composed of cobbly loam, cobbly clay loam, very cobbly clay loam and very cobbly clay that develop from gravelly alluvium derived from mixed sources of parent material. These soils typically have a very slow infiltration rate (high runoff potential) when thoroughly wet. These soils typically have a severe hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 7.4 percent (37.3 acres) of the soil investigation area.
- **Olivenhain cobbly loam**, 30 to 50 percent slopes map unit consists of well drained soil typically found on marine terraces from 100 to 600 feet amsl. The soil profile is typically composed of cobbly loam, cobbly clay loam, very cobbly clay loam and very cobbly clay that develop from gravelly alluvium derived from mixed sources of parent material. These soils typically have a very slow infiltration rate (high runoff potential) when thoroughly wet. These soils typically have a severe hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 4.1 percent (20.4 acres) of the soil investigation area.
- **Placentia sandy loam**, 2 to 9 percent slopes map unit consists of moderately well drained soil typically found on alluvial fans from 50 to 2,500 feet amsl. The soil profile is typically composed of sandy loam, sandy clay loam, clay loam and sandy clay that develop from alluvium derived from granite parent material. These soils typically have a very slow infiltration rate (high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.7 percent (3.3 acres) of the soil investigation area.
- **Ramona sandy loam**, 5 to 9 percent slopes map unit consists of well drained soil typically found on alluvial fans from 250 to 3,500 feet amsl. The soil profile is typically composed of sandy loam, sandy clay loam and clay loam that develop from alluvium derived from granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.3 percent (1.6 acres) of the soil investigation area.
- **Ramona gravelly sandy loam**, 9 to 15 percent slopes map unit consists of well drained soil typically found on alluvial fans from 2,500 to 3,500 feet amsl. The soil profile is typically composed of gravelly sandy loam and gravelly sandy clay loam that develops from alluvium derived from granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.6 percent (2.8 acres) of the soil investigation area.
- **Reiff fine sandy loam**, 0 to 2 percent slopes map unit consists of well drained soil typically found on alluvial fans from 30 to 500 feet amsl. The soil profile is typically composed of fine sandy

loam and stratified sandy loam to loam that develops from alluvium derived from granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.3 percent (1.6 acres) of the soil investigation area.

- **Sheephead rocky fine sandy loam**, 9 to 30 percent slopes, eroded map unit consists of well drained soil typically found on mountainflanks from 3,500 to 7,500 feet amsl. The soil profile is typically composed of cobbly fine sandy loam and weathered bedrock that develops from residuum weathered from gneiss and schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 3.3 percent (16.7 acres) of the soil investigation area.
- **Sheephead rocky fine sandy loam**, 30 to 65 percent slope s, eroded map unit consists of well drained soil typically found on mountain flanks from 3,500 to 7,500 feet amsl. The soil profile is typically composed of cobbly fine sandy loam and weathered bedrock that develops from residuum weathered from gneiss and schist parent material. These soils typically have a slow infiltration rate (medium to high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 3.3 percent (16.7 acres) of the soil investigation area.
- **Tollhouse rocky coarse sandy loam**, 30 to 65 percent slopes map unit consists of somewhat excessively well drained soil typically found on mountain flanks from 650 to 8,000 feet amsl. Twenty five percent of this map unit is composed of rock outcropping. The soil profile is typically composed of gravelly coarse sandy loam and weathered bedrock that develops from residuum weathered from granodiorite. These soils typically have a very slow infiltration rate (high runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.8 percent (4.0 acres) of the soil investigation area.
- **Visalia sandy loam**, 9 to 15 percent slopes map unit consists of well drained soil typically found on alluvial fans from 0 to 1,500 feet amsl. The soil profile is typically composed of sandy loam, fine sandy loam and very fine sandy loam that develops from alluvium derived from granite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.3 percent (1.7 acres) of the soil investigation area.
- **Vista coarse sandy loam**, 9 to 15 percent slopes map unit consists of well drained soil typically found on hill side slopes from 400 to 3,900 feet amsl. The soil profile is typically composed of sandy loam, coarse sandy loam and weathered bedrock that develops from residuum weathered from granodiorite and quartz-diorite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 0.3 percent (1.7 acres) of the soil investigation area.

- **Vista rocky coarse sandy loam**, 5 to 15 percent slopes map unit consists of well drained soil typically found on hill side slopes from 400 to 4,000 feet amsl. Twenty five percent of this map unit is composed of rock outcropping. The soil profile is typically composed of sandy loam, coarse sandy loam and weathered bedrock that develops from residuum weathered from granodiorite and quartz-diorite parent material. These soils typically have a moderate infiltration rate (low to medium runoff potential) when thoroughly wet. These soils typically have a moderate hazard of surface rut formation resulting from the operation of equipment. This map unit comprises 9.9 percent (49.8 acres) of the soil investigation area.

5.10.2 Drainage Features and Connectivity

Four watersheds exist within the TL 637 Survey Area: the Santa Maria, San Vicente, San Diego River, and Santa Ysabel watersheds.

The Santa Maria watershed is located at the western end of the TL 637 ROW in the unincorporated community of Ramona. Rainwater is fed into the watershed from two tributaries, Hatfield and Wash Hollow creeks, along with several unnamed streams into Santa Maria Creek. Specifically within the TL 637 ROW, water flows from seven drainages northwest into an unnamed stream. The distance from the furthest drainage to the unnamed stream is approximately 1 river mile. The unnamed stream continues northwest for approximately 3 river miles. The water is then diverted north for approximately 1 mile through an underground pipe following San Vicente Road. The water merges with Santa Maria Creek and flows west for approximately 15 river miles to terminate at Lake Hodges, a TNW.

The San Vicente watershed begins at the origin of San Vicente Creek east of Littlepage Road and spans the TL 637 ROW to Simon Preserve in the unincorporated community of Ramona. Rainwater is fed into the watershed from two creeks. Dye Creek is located east of West Side Road. Dye Creek flows south for approximately 5 river miles to an unnamed stream. The water flows southwest for approximately 1 river mile through the unnamed stream to merge into San Vicente Creek. The second creek that feeds the watershed is San Vicente Creek. The origin of San Vicente Creek is located east of Littlepage Road. The water flows southwest for approximately 2 river miles before Dye Creek merges with San Vicente Creek. The creek then continues southwest for approximately 7 river miles to terminate at San Vicente Reservoir, a TNW.

The San Diego River watershed originates at the San Diego River located in the unincorporated community of Santa Ysabel and is fed by rainwater and snowmelt from the Volcan Mountains. The San Diego River is fed by several creeks; however, Dye Creek and an unnamed creek are the only creeks within the TL 637 ROW. Dye Creek flows south for approximately 5 river miles to an unnamed stream. At this junction, water diverges into two unnamed streams. One stream flows toward San Vicente Creek, as describe above, and the other flows southeast for approximately 1 river mile to the San Diego River. The San Diego River flows southwest for approximately 12 river miles to terminate at El Capitan Lake, a TNW.

The Santa Ysabel watershed originates in the Volcan Mountains in the unincorporated community of Santa Ysabel and is fed by rainwater and snowmelt from the Volcan Mountains. Several streams flow into Santa Ysabel Creek; however, an unnamed stream located south of the junction between Hwy 78 and Hwy 79 is the only stream within the TL 637 ROW. The unnamed stream flows northeast for approximately 1 river mile to Santa Ysabel Creek. Santa Ysabel Creek flows west for approximately 5 river miles to terminate at Sutherland Reservoir, a TNW.

Santa Maria Creek, San Vicente Creek, the San Diego River, and Santa Ysabel Creek are RPWs leading to several reservoirs and lakes. The total distance of water flow from the TL 637 ROW to Lake Hodges via Santa Maria Creek is approximately 20 river miles. Santa Maria Creek does not flow directly within the TL 637 ROW area but is fed by several ephemeral drainages that direct surface water only immediately after rain events. The total distance of water flow from the TL 637 ROW to the San Vicente Reservoir via San Vicente Creek is approximately 13 river miles. San Vicente Creek originates within the TL 637 ROW; however, perennial flow does not establish until after the inflow from Dye Creek, which is outside the work area. Dye Creek is a RPW with water flow year round. One drainage is an intermittent tributary to Dye Creek, meaning that during the dry season and in years with little rainfall it does not always contain flowing water. One drainage is also within this watershed is a blue line intermittent stream. All other drainages within this watershed are characterized as ephemeral drainage features. The total distance of water flow from the TL 637 ROW to El Capitan Lake via the San Diego River is approximately 18 river miles. The San Diego River does not flow directly within the TL 637 ROW but is fed by several ephemeral drainages and Dye Creek. The total distance of water flow from the TL 637 ROW to the Sutherland Reservoir via Santa Ysabel Creek is approximately 7 river miles. Drainages flowing into Santa Ysabel Creek are intermittent.

5.10.3 Vegetation Communities

The TL 637 ROW is composed of several vegetation communities including wetland communities, upland communities, and other communities as well as non-native grasslands and disturbed habitats. Please see Section 5.1 for a description of the vegetation communities found along TL 637.

Areas characterized as a wet meadow occur where the soil is more or less continuously saturated by freshwater and vegetation is dominated by emergent herbaceous species. Common species include cattail (*Typha* spp.), rushes (*Juncus* spp.) and spikerushes (*Eleocharis* spp.) and other plants associated with wet areas such as curly dock (*Rumex crispus*), salt grass (*Distichlis spicata*), and rabbitsfoot grass (*Polypogon monspeliensis*).

Plant species found on the TL 637 ROW typical of this vegetation community include: fascicled tarweed (*Deinanadra fasciculata*), Mexican rush (*Juncus arcticus* var. *mexicanus*), Spanish-clover (*Lotus purshianus*), annual beard grass (*Polypogon monspeliensis*), mariposa rush (*Juncus dubius*), annual bur-sage (*Ambrosia acanthicarpa*), slender oat (*Avena barbata*), doveweed (*Croton setigerus*), scarlet pimpernel (*Anagalis arvensis*), soft brome (*Bromus hordeaceus*), curly dock, spikerush, everlasting cudweed (*Gnaphalium luteo-album*), salt grass, Italian ryegrass (*Lolium multiflorum*), seep monkey flower (*Mimulus guttatus*), cattail, Indian sweet-clover (*Melilotus indicus*), and English plantain (*Plantago lanceolata*).

SECTION 6.0 – IMPACT DETERMINATIONS

6.1. PROJECT SPECIFIC IMPACTS

The following discussion describes the proposed project's potential to impact sensitive resources during construction of the TL 637 wood to steel pole project. SDG&E would operate in compliance with all state and federal laws, regulations, and permit conditions. This includes compliance with the CWA, Porter-Cologne Water Quality Control Act, ESA, MBTA, BGEPA, CESA, CEQA, requirements and protective measures from BLM (when working on BLM land), CDFW, USFWS, and CNF (when working on CNF land). In addition, SDG&E would operate under the *SDG&E Subregional NCCP*, which was established according to the ESA and CESA and the NCCP Act. This would include compliance with Section 7.1, *Operational Protocols* and Section 7.2, *Habitat Enhancement Measures* of the *SDG&E Subregional NCCP*. The *SDG&E NCCP Operational Protocols* are designed to provide avoidance and minimize impacts to all sensitive resources, regardless of whether the species is a NCCP-covered species. No additional Applicant Proposed Measures (APMs) are recommended at this time. All associated impacts to biological resources for this project are considered less than significant due to permit conditions and SDG&E standard practices.

Construction of the TL 637 wood to steel pole project would result in temporary disturbance and/or permanent loss of sensitive vegetation communities, native trees, wetlands and jurisdictional waters; however, SDG&E would avoid and minimize impacts according to the *SDG&E NCCP Operational Protocols*, and the RWQCB 401 certification conditions (Certification No. 11C-114; Categorical Exemption; Appendix A). In addition, temporary disturbance and/or permanent loss could occur to sensitive plant species, sensitive wildlife, and critical habitat areas. Permanent loss involves long-term impacts associated with permanent features such as new poles. Temporary disturbance includes short-term impacts during removal of old wood poles, installation for new poles, and work at string sites, staging/laydown areas, and improvements to existing access roads.

6.1.1 Permanent Impacts

Permanent impacts include the placement of either a light-duty steel pole, heavy-duty steel pole, or micropile foundation steel pole.

Permanent impacts resulting from the installation of light-duty steel poles were calculated with an assumption that each pole location would require up to an approximately 54-inch diameter hole for the replacement pole and that each pole would measure up to 30 inches in diameter at ground level, which would result in an approximately 5 sq. ft. permanent impact per pole for the pole alone. Permanent impacts resulting from the installation of heavy-duty steel poles were calculated with an assumption that each pole location would require up to an approximately 66-inch diameter hole for the replacement pole and that each pole would measure up to 42 inches at ground level, which would result in an approximately 10 sq. ft. permanent impact for the pole alone. Permanent impacts for light- and heavy-duty directly embedded steel poles are only calculated for the area of the pole alone. As all light- and heavy-duty poles will be backfilled with concrete, there will be an additional permanent impact surrounding the pole resulting from the concrete backfill. As terrain will vary between pole replacement locations, and pole diameter at the base will vary between pole replacement locations, these additional permanent impacts cannot be accurately estimated at this time. Actual permanent impacts from both the pole and the concrete backfill surrounding the pole will be assessed in the post-construction report, and addressed through credit withdrawal from the SDG&E mitigation bank where appropriate.

The assumed permanent impact for micropile steel poles is based on a micropile steel cap plate with an average diameter of 7 feet, for a 39 sq. ft. permanent impact area.

6.1.2 Temporary Impacts

Light-Duty Direct Embedded Steel Poles

The anticipated temporary impacts for installation of light-duty directly-embedded steel poles was calculated with an assumption that each location would require a 10-foot radius around the pole for a designated temporary work area, resulting in a temporary impact area of 314 sq. ft. and a permanent impact area of 5 sq. ft. for the pole alone, resulting in the calculated 309 sq. ft. of temporary impacts for light-duty steel poles.

Heavy-Duty Direct Embedded Steel Poles

The anticipated temporary impacts for installation of heavy-duty directly-embedded steel poles was calculated with an assumption that each location would require a 10-foot radius around the pole for a designated temporary work area, resulting in a temporary impact area of 314 sq. ft. and a permanent impact area of 10 sq. ft. for the pole alone, resulting in the calculated 304 sq. ft. of temporary impacts for heavy-duty steel poles.

Micropile Foundations Steel Pole

The anticipated temporary impacts for installation of micropile foundation steel poles was calculated with an assumption that each location would require a 20-foot radius around the pole for a designated temporary work area, resulting in a temporary impact area of 1,250 sq. ft. and an average permanent impact area of 39 sq. ft., resulting in 1,211 sq. ft. of total temporary impacts for the new micropile foundation steel pole locations.

Access Roads

SDG&E will use existing access roads during construction. No new access roads are proposed for this project. Where existing access roads are damaged, repairs may be made by blading and smoothing the access road as applicable. Importing and compacting more stable materials on existing facilities in unstable areas may also be required. Generally, access roads and spur roads would be smoothed level and approximately 12 to 15 feet wide (approximately 20 feet wide at corners) to allow construction equipment and vehicles to access each site safely in accordance with the 2007 *SDG&E Design and Procedure Manual for Transmission Line Access Roads*. Turnarounds would be sized according to local site conditions and as required by construction equipment and vehicles. SDG&E would continue to utilize BMPs to minimize dust and erosion.

Footpaths

A total of approximately 15,180 sq. ft. of temporary impacts is anticipated to occur as a result of clearing seven footpaths of varying lengths and widths, generally 4 feet wide, to access poles and from crew members walking along these paths to access pole locations. No vegetation mowing or trimming is required or allowed at six of the footpaths due to jurisdictional water features. Vegetation trimming is allowed on only one of the footpaths, the footpath to the pole R66.

Staging Yards, Helicopter Landing Sites/Stringing Site Impacts

The TL 637 project will require use of 22 stringing sites that will temporarily impact approximately 247,200 sq. ft. (5.67 acres) of habitat. Vehicles, equipment, and personnel will remain within the SDG&E ROW, existing paved or unpaved access roads, or previously disturbed areas to the extent possible.

The use of four staging yards at the Warnock, Creelman, Woodlot, and Santa Ysabel sites and two HLZs at the Littlepage and Mt. Gower sites will result in approximately 657,636 sq. ft. of temporary impacts.

Temporary Work Areas Greater Than Eight Feet from the Existing Wood Pole Location

Fourteen poles will be relocated more than 8 feet from the existing pole locations. The temporary work area for the removal of the wood pole locations will be no greater than 314 sq. ft.

Temporary Wood Poles

The proposed project will require the use of seven temporary wooden poles known as shoe-fly poles to facilitate the installation of new poles in a same-hole set alignment. Wooden poles will be installed within the existing temporary work areas; therefore, no additional temporary impacts are calculated for these poles.

Anchors

Three temporary traditional anchors and three temporary block and sled anchors will be utilized for installing temporary shoe-fly poles. Temporary impacts associated with the placement of three steel anchors will result in approximately 48 sq. ft. of temporary impacts. Temporary impacts associated with the placement of three block and sled anchors will result in approximately 260 sq. ft. of temporary impacts. Total temporary impacts as a result of the use of these six temporary anchors will result in approximately 308 sq. ft. of temporary impacts.

Guard Structures

Approximately ten wooden guard structures will be utilized during construction at various locations where the TL crosses public roads. The guard structures are necessary to provide for safety while conductor is pulled through the line. Two wooden poles will be erected at the junction of where public roads intersect the existing TL. Approximately 72 sq. ft. of vegetation will be temporarily impacted to install each of the ten H-frame guard structure along the ROW. Total temporary impacts as a result of the use of these ten H-frame temporary guard structures will result in approximately 720 sq. ft. of temporary impacts.

Underground Distribution Line

Thirteen locations will have impacts associated with the installation of existing distribution lines underground. Impacts associated with trenching and placement of distribution lines underground will result in approximately 422 sq. ft. of temporary impacts.

Underground Fiber Optic Cable

Three trenches of approximately 50 feet by 0.5 foot, 110 feet by 0.05 foot, and 5 feet by 2 feet, are associated with the installation of FOC. Trenching for the installation of FOC underground will result in approximately 90 sq. ft. of temporary impacts.

Table 4.
Anticipated Impact Summary Table

Type of Impact		Area Impacted (square feet)
Temporary	Total Anticipated Temporary Impacts to Sensitive Vegetation Communities (not including Disturbed, Agriculture, Bareground, and Landscape/Ornamental communities)	527,099
	Total Anticipated Temporary Impacts to Non-Sensitive Vegetation Communities (Disturbed, Agriculture, Bareground, and Landscape/Ornamental communities)	491,321
	Total Anticipated Temporary impacts	1,018,420
Permanent	Total Anticipated Permanent Impacts to Sensitive Vegetation Communities (not including Disturbed, Agriculture, Bareground, and Landscape/Ornamental communities)	1,520
	Total Anticipated Permanent Impacts to Non-Sensitive Vegetation Communities (Disturbed, Agriculture, Bareground, and Landscape/Ornamental communities)	2,306
	Total Anticipated Permanent Impacts	3,826

6.2. VEGETATION COMMUNITIES

6.2.1 Vegetation Impacts

The *SDG&E Subregional NCCP* allows for impacts to NCCP-covered species when incidental to otherwise lawful activities and when conducted in full compliance with the *SDG&E Subregional NCCP*. Compliance with the *SDG&E Subregional NCCP* is intended to avoid and minimize impacts. Vegetation mapping was based upon descriptions provided by Sawyer and Keeler-Wolf, *SDG&E Subregional NCCP* Section 3.1, and Holland. Impacts were calculated during the pre-activity surveys conducted for TL 637.

Consistent with the *SDG&E Subregional NCCP*, the TL 637 project has been designed to avoid sensitive habitat areas when possible, including not placing poles in drainage areas, using existing access roads to the greatest extent possible, and placing any new facilities, staging areas, or access roads outside habitats when feasible. Where avoidance of sensitive habitat areas is not possible, or where sensitive

habitat areas exist adjacent to TL 637 project work areas, implementation of the measures in Section 7.1 and 7.2 of the *SDG&E Subregional NCCP* will ensure these impacts remain less than significant.

The TL 637 project would permanently impact approximately 0.001 acre of Open Oak Woodland, 0.005 acre of Chaparral, 0.005 acre of Buckwheat Scrub, 0.010 acre of Coastal Sage Scrub/Chaparral Mix, 0.012 acre of Grassland, 0.001 acre of Landscape/Ornamental, 0.011 acre of Disturbed, 0.041 acre of Bareground, and 0.002 acre of Disturbed Wetland habitats. No permanent impacts to Riparian Forest, Agricultural, Coastal Sage Scrub, Freshwater Marsh, Open/Dense Engelmann Oak Woodland, or Coast Live Oak Forest habitat would occur.

The TL 637 project would also temporarily impact approximately 0.063 acre of Open/Dense Engelmann Oak Woodland, 0.044 acre of Open Oak Woodland, 0.003 acre of Coast Live Oak Forest, 0.366 acre of Chaparral, 0.132 acre of Coastal Sage Scrub, 0.953 acre of Buckwheat Scrub, 0.486 acre of Coastal Sage Scrub/Chaparral Mix, 0.002 acre of Meadow/Seep, 10.052 acres of Grassland, 0.118 acre of Landscape/Ornamental, 5.029 acres of Agriculture, 2.652 acres of Disturbed, 3.351 acres of Bareground, and 0.128 acre of Disturbed Wetland habitats. No temporary impacts to freshwater marsh or riparian forest habitat would occur.

Anticipated permanent and temporary impacts associated with the TL 637 pole replacement project were documented during a pre-activity survey on July 11 through 15, 2011. Vegetation communities were documented at each facility impact area and noted in the pre-activity survey report (PSR) habitat/land use and mitigation table. Vegetation communities were also further identified during a 2010 focused plant survey conducted by Chambers Group botanists. Many of the vegetation communities from the PSR and the 2010 plant survey overlap. As noted during the focused plant survey in 2010, rare and listed species were identified, mapped, and marked with waypoints on handheld GPS units. Any sensitive plant species identified was included in the final CNF rare plant report. Rare plants identified on the ROW during the CNF plant survey were also noted in the PSR studies.

Table 5. Anticipated Impacts by Vegetation Community Type

Vegetation Community	Temporary		Permanent	
	Acres	Square Feet	Acres	Square Feet
Agricultural	5.029	219,073	0	0
Buckwheat Scrub	0.953	41,550	0.005	205
Chaparral	0.366	15,951	0.005	230
Bare Ground	3.351	145,972	0.041	1,797
Coastal Sage Scrub	0.132	5,762	0	10
Coastal Sage Scrub/Chaparral Mix	0.486	21,182	0.010	435
Disturbed	2.652	115,543	0.011	465
Disturbed Wetland	0.128	5,575	0.002	98
Freshwater Marsh	0	0	0	0
Meadow/Seep	0.002	88	0	0

Table 5. Anticipated Impacts by Vegetation Community Type

Vegetation Community	Temporary		Permanent	
	Acres	Square Feet	Acres	Square Feet
Grassland	10.052	437,844	0.012	503
Landscape/Ornamental	0.118	5,158	0.001	44
Open Oak Woodland	0.044	1,931	0.001	39
Riparian Forest	0	0	0	0
Open/Dense Engelmann Oak Woodland	0.063	2,768	0	0
Coast Live Oak Forest	0.003	111	0	0

6.3. SENSITIVE PLANT SPECIES

Construction activities could potentially impact sensitive plant species. Five sensitive plant species — San Diego milk-vetch, Orcutt’s brodiaea, delicate clarkia, San Bernardino aster, and Parry’s tetracoccus,— are known to be present within the TL 637 ROW, based on the 2010 rare plant surveys. However, these species were not identified within the construction impact area. SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP* to ensure that potential impacts to these species remain at less than significant.

No other sensitive plant species were found during the 2010 rare plant surveys. One additional sensitive plant species, San Diego gumplant, was determined to have a moderate potential to occur within the TL 637 project area due to having suitable habitat present within the ROW and historical occurrences recorded within 3 miles of the ROW; however, the species was not specifically surveyed for during the 2010 rare plant surveys. SDG&E will survey for this species during the Project-wide verification survey prior to construction activities to avoid potential impacts to this species.

Seventy-seven out of a total of 83 sensitive species were determined to be absent or have a low potential to occur within the TL 637 project area. None of these species were detected during the rare plant survey; therefore, no impacts to these species are expected to occur.

6.4. NATIVE TREE TRIMMING

A total of approximately 24 pole/site locations may require tree trimming to facilitate pole replacement and restringing activities. Thirteen pole/site locations were shown to need tree trimming, of which six are within the Preserve. In order to avoid and minimize impacts to NCCP-covered species, SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP*. These protocols include, but are not limited to, restricting vehicles to existing roads when feasible, conducting preconstruction surveys, staying within the designated footpaths, trimming trees within the identified trimming locations, and scheduling tree trimming in the non-sensitive times to the extent practical. In addition, a certified arborist will be available to direct tree trimming activities to reduce impacts to native trees where trimming is required for access or other project-related activities.

6.5. SENSITIVE WILDLIFE SPECIES

6.5.1 Sensitive Invertebrate Species

No sensitive invertebrate species have a moderate or high potential to occur in the project area.

San Diego Fairy Shrimp has a low potential to occur within the TL 637 ROW. CNDDDB records 11 occurrences within 3 miles of the TL 637 ROW, the closest being approximately 1.3 miles west (outside the project ROW) in a pool southeast of 7th and Telford streets in Ramona, California. SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP* to avoid potential impacts to vernal pool habitats. The TL 637 ROW was inspected for vernal pools and areas that could potentially support this species, including road ruts with clay soils. Low quality road ruts were observed outside the project ROW along Creelman Lane and outside of the Creelman Staging Yard; however, no vernal pools or claypan areas that would hold water for long durations after a rain event were identified within the project ROW. During Pre-Activity surveys conducted in 2012 for TL 637, low quality vernal pools were identified outside the fenced Creelman Staging Yard. These vernal pools will be completely avoided during the proposed construction activities. Therefore, this species is not expected to occur within the project ROW.

6.5.2 Sensitive Amphibian Species

No sensitive amphibian species have moderate or high potential to occur in the TL 637 ROW Survey Area. These species either lack historical occurrences within 3 miles of the project ROW or suitable habitat in the ROW was absent or sub-optimal quality. Field habitat assessments were conducted for sensitive amphibian species including the arroyo toad; however, no suitable breeding habitat was identified by qualified biologists. Therefore, as these species are not expected to occur in the project ROW, no impact to sensitive amphibian species is expected to occur.

6.5.3 Sensitive Reptile Species

Construction activities could potentially impact six sensitive reptile species. Three of the sensitive reptile species (coast horned lizard, Coronado Island skink, coastal rosy boa) are NCCP-covered species and were present in the TL 637 ROW Survey Area. One species (Belding's orange-throated whiptail, NCCP-covered) has a high potential to occur, and the remaining two species (northern red-diamond rattlesnake, San Diego ringneck snake – both NCCP-Covered) have a moderate potential to occur in the TL 637 ROW Survey Area.

Permanent impacts may include the loss of potential foraging and breeding habitat due to the installation of new poles. Approximately, 0.001 acres of open oak woodland, 0.005 acres of chaparral, 0.010 acres of mixed chaparral/coastal sage scrub, and 0.012 acres of grasslands are anticipated to be permanently impacted due to the proposed project. Temporary impacts such as disruption of foraging behavior due to installation of new poles, staging yards and stringing site/helicopter landing sites may also occur. Approximately, 0.953 acres of buckwheat scrub, 0.044 acres of open oak woodland, 0.366 acres of chaparral, 0.132 acres of coastal sage scrub, 0.010 acres of mixed chaparral/coastal sage scrub, 0.063 open/dense Engelmann oak woodland, and 10.052 acres of grasslands are anticipated to be temporarily impacted due to the proposed project.

SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP* to prevent potential impacts to wildlife species. This includes a biological monitor onsite to avoid and minimize impacts to biological resources. Implementation of *SDG&E NCCP Operational Protocols* and NCCP guidelines would ensure potential impacts to sensitive reptile species remain less than significant.

6.5.4 Sensitive Avian Species and Nesting Birds

Proposed construction activities may cause both permanent and temporary impacts to foraging and/or nesting habitat for six sensitive avian species that have either been observed onsite or have a moderate or high potential to occur. Two of these species have been observed foraging and nesting onsite: CAGN (NCCP-covered) and purple martin. Three of these species have been observed foraging onsite and have a potential for nesting: white-tailed kite, Cooper's hawk (NCCP-covered), and rufous-crowned sparrow (NCCP-covered). The Cooper's hawk and rufous crowned sparrow have a high potential to nest on site. Low quality suitable nesting habitat for the white-tailed kite near the survey areas exists; therefore the potential for this species to nest within the survey area is low. One of these species, the golden eagle (NCCP-covered), has a high potential to forage onsite but can be considered absent for nesting due to the lack of suitable nesting habitat within the ROW. In addition, impacts to nesting habitat may affect nesting passerine and raptor species covered under the MBTA.

Project activities that could result in the permanent or temporary impacts due to loss of nesting and foraging habitat include the removal of wood poles (which support cavity nesters and raptors depending on the design of crossbeams) and the removal of vegetation, such as during the creation of staging and laydown yards for the construction, stringing sites, and installation of new poles. Temporary impacts to avian nesting and foraging may include a temporary increase in noise from construction equipment and vehicles.

These six species collectively nest and/or forage in the following habitat types which are present onsite: buckwheat scrub, chaparral, coast live oak forest, coastal sage scrub, coastal sage scrub/chaparral mix, open/dense Engelmann oak woodland, grassland, landscape/ornamental, meadow/seep, open oak woodlands, riparian forest, and disturbed wetland.

Approximately 0.005 acre of Buckwheat Scrub, 0.005 acre of Chaparral, 0.010 acre Coastal Sage Scrub/Chaparral Mix, 0.002 acre of Disturbed Wetland, Open 0.001 acre of Oak Woodland, 0.001 acre of Landscape/Ornamental, and 0.012 acre of Grassland are anticipated to be permanently impacted due to the proposed project.

Approximately 5.029 acres of Agricultural, 0.953 acre of Buckwheat Scrub, 0.366 acre of Chaparral, 0.132 acre of Coastal Sage Scrub, 0.486 acre of Coastal Sage Scrub/Chaparral Mix, 0.128 acre of Disturbed Wetland, 0.002 acre of Meadow/Seep, 0.044 acre of Open Oak Woodland, 0.063 acre of Open/Dense Engelmann Oak woodland, 0.003 acre of Coast Live Oak Forest, 0.118 acre Landscape/Ornamental, and 10.052 acres of Grassland are anticipated to be temporarily impacted due to the proposed project.

Specific temporary and permanent impacts for the CAGN were also assessed for locations where occupied gnatcatchers were identified. This species was observed nesting and foraging on the TL 637 ROW near poles P64 west to P52, P48 to P51, D44 to P43 to P47, and D46 during focused surveys conducted in 2010 (Chambers Group 2010). These CAGN occupied areas are outside the USFWS designated critical habitat. Based on the observed locations of this species in suitable habitat (Coastal

Sage Scrub/Chaparral Mix in the immediate area), approximately 122 sq. ft. (0.0028 acre) of Coastal Sage Scrub/Chaparral Mix is anticipated to be permanently impacted due to the proposed project. Approximately 759 sq. ft. (0.0493 acre) of Coastal Sage Scrub/Chaparral Mix and 425 sq. ft. (0.0097 acre) of Buckwheat Scrub in the immediate area are anticipated to be temporarily impacted due to the proposed project.

All six of the sensitive avian species listed above that have a potential to nest and/or forage onsite are covered by the NCCP except for the white-tailed kite and purple martin. In order to avoid and minimize impacts to sensitive and native avian species, SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP*. SDG&E will also remain in compliance with the MBTA. In order to avoid and minimize impacts to nesting raptors, large, existing stick nests that could support nesting raptors near sites P90, P95, R107, P129, P156, and P158 should be monitored for nesting raptors during the raptor breeding season (January 1 through July 31). Implementation of the *SDG&E NCCP Operational Protocols*, and compliance with the MBTA as described above, would ensure the impacts to nesting avian species remain less than significant.

Concerns regarding potential electrocution of wildlife species from power lines, which would be classified as a permanent impact to species protected under the MBTA, are primarily focused on avian species. Electrocution of avian species can occur from wing contact with two conductors, as avian species perching, landing, or taking off from a utility pole can complete the electrical circuit. Avian electrocutions can also occur through simultaneous contact with energized phase conductors and other equipment or simultaneous contact with an energized wire and a grounded wire. Electrocution of avian species poses a greater potential hazard to larger birds, such as raptors, because their body sizes and wing spans are large enough to bridge the distance between the conductor wires and, thus, complete the electrical circuit. The power line structures would be constructed in compliance with the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Avian Protection on Power Lines, in addition to SDG&E's current construction standard, which includes increased phase spacing and cover-ups to reduce avian mortality from electrocution. Therefore, the potential for wildlife electrocution would be reduced as a result of the proposed project.

6.5.5 Sensitive Mammal Species

Proposed construction activities may cause both permanent and temporary impacts to three sensitive mammal species that have a moderate or high potential to occur within the project ROW. These three mammal sensitive species are NCCP-covered species and include two rodent species: Dulzura (California) pocket mouse and San Diego desert woodrat; and one weasel species: American badger. All three species have a moderate potential to occur onsite.

Proposed construction activities, including removing and installing power poles and clearing vegetation during creation of work areas, stringing sites, staging and laydown areas, may cause both permanent and temporary impacts to the mammal species. Permanent impacts from these activities may include a reduction of foraging, burrowing, and nesting (woodrat) habitat from vegetation removal. Temporary impacts may result from construction noise and ground vibration, as mammals may be deterred from inhabiting or foraging in areas near such activities. The three sensitive mammal species described above collectively inhabit the following habitat types: buckwheat scrub, chaparral, coast live oak forest, coastal sage scrub, coastal sage scrub/chaparral mix, open/dense Engelmann oak woodland, grassland, open oak woodlands, and riparian forest.

Permanent impacts to approximately 0.005 acre of Buckwheat Scrub, 0.005 acre Chaparral, 0.010 acre Coastal Sage Scrub/Chaparral Mix, 0.002 acre Disturbed Wetland, 0.001 Open Oak Woodland, and 0.012 acre Grassland are anticipated for this project. Temporary impacts to approximately 0.953 acre Buckwheat Scrub, 0.366 acre Chaparral, 0.132 acre Coastal Sage Scrub, 0.486 acre Coastal Sage Scrub/Chaparral Mix, 0.128 acre Disturbed Wetland, 0.002 acre Meadow/Seep, 0.044 acre Open Oak Woodland, 0.063 acre Open/Dense Engelmann Oak woodland, 0.003 acre Coast Live Oak Forest, and 10.052 acres Grassland.

The NCCP covers all three sensitive mammals described above. SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP*. These protocols include, but are not limited to, restricting vehicles to existing roads when feasible, avoiding wildlife to the extent practicable, conducting pre-construction surveys, and wildlife being handled only by biologists or experts in handling wildlife. These protocols also include a biological monitor onsite to avoid and minimize impacts to biological resources. SDG&E will implement all applicable *Operational Protocols* from the *SDG&E Subregional NCCP* to ensure potential impacts to sensitive mammal species remain less than significant.

Power lines and other project-related structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife, including sensitive mammal species, by raptors. Because the proposed project involves the replacement of existing facilities and does not include an extension of the TL, the extent of predation on sensitive and common wildlife species is not anticipated to differ from existing conditions.

6.6. USFWS CRITICAL HABITAT AREAS

The USFWS designation of critical habitat for the CAGN specifically excluded areas within functioning HCPs, such as SDG&E's *SDG&E Subregional NCCP*. The CAGN habitat owned by SDG&E (and covered under the *SDG&E Subregional NCCP*) was determined to have greater benefits to CAGN than lands designated as critical habitat. Habitat, as well as designated critical habitat, for the CAGN is located in several locations along the project ROW. The following 10 poles are located within critical habitat for the CAGN: P96 to P106. No CAGN were identified during focused surveys in the USFWS designated critical habitat areas.

Permanent Impacts to approximately 0.001 acre of Buckwheat Scrub are anticipated for this project within the critical habitat area. Temporary impacts to approximately 0.056 acre Buckwheat Scrub and 0.009 acre of Chaparral within the critical habitat area are anticipated to result from construction activities. Temporary impacts to approximately 0.014 acre Coastal Sage Scrub within the critical habitat area are anticipated to result from construction activities. No permanent impacts to Coastal Sage Scrub are anticipated to result from construction activities.

6.7. WILDLIFE MOVEMENT CORRIDORS

It is not anticipated that the proposed project will have a significant effect on wildlife movement corridors. The new pole installations will be located within an existing ROW and are nearly immediately adjacent to existing poles in urban, developed, grazing pastures, grasslands, and hillsides. Several drainage features are adjacent to the proposed construction area that could potentially be used as a migration corridor for mammal species; therefore, the quality of the site as a wildlife movement corridor for terrestrial species is diminished on a temporary basis during construction. However, the proposed construction activities would not significantly impact or restrict general wildlife movement due to the

temporary and intermittent locations of construction activities. Wildlife would not be physically prevented from moving around project equipment in the project corridor. Wildlife movement would not be obstructed and could move around the poles. Because the proposed project involves the replacement of existing facilities and does not include an extension of the TL, the extent of obstruction or reduction of wildlife corridors is not anticipated to differ from existing conditions.

6.8. PRESERVE AREAS

SDG&E proposes to withdraw credit from the SDG&E mitigation bank for 412 sq. ft. of permanent impacts to sensitive vegetation communities located within the above mentioned Preserve areas at a ratio of 2:1 for a total of 824 sq. ft., and for a total of 23,313 sq. ft. of temporary impacts to sensitive vegetation communities located within the above mentioned Preserve areas at a ratio of 1:1 as a result of project-related activities. Therefore, SDG&E proposes to draw down a total of 24,137 sq. ft. (0.55 acre) of credit from the SDG&E mitigation bank impacts to sensitive habitat types located within Preserve areas. Please see the Anticipated Credit Withdrawal Summary Table 6 below.

Table 6.
Anticipated Credit Withdrawal Summary Table

Type of Mitigation		Area Impacted (square feet)
Temporary	Total Anticipated Credit Withdrawal for Temporary Impacts to Buckwheat Scrub, Coastal Sage Scrub, Coastal Sage Scrub/Chaparral Mix, Chaparral, Dense Engelmann Oak Woodlands, Grassland, Meadow Seep, Open Engelmann Oak Woodland, and Open Oak Woodland habitats Within a Preserve at a 1:1 Ratio	23,313
Permanent	Total Anticipated Credit Withdrawal for Permanent Impacts to Buckwheat Scrub, Coastal Sage Scrub, Coastal Sage Scrub/Chaparral Mix, Chaparral, Grassland, and Meadow Seep Habitats Within a Preserve at a 2:1 Ratio	824
TOTAL	Total Anticipated Credit Withdrawal for Impacts to Buckwheat Scrub, Coastal Sage Scrub, Coastal Sage Scrub/Chaparral Mix, Chaparral, Dense Engelmann Oak Woodlands, Grassland, Meadow Seep, Open Engelmann Oak Woodland, and Open Oak Woodland habitats Within Preserve Areas	24,137
Enhancement	Total Anticipated Enhancement (Active Enhancement) for Temporary Impacts to Buckwheat Scrub, Coastal Sage Scrub, and Open Engelmann Oak Woodland Habitats Within a Preserve at a 1:1 Ratio	6,600
Monitoring	Total Anticipated Enhancement (Monitoring) for Temporary Impacts to Grassland Habitats Within a Preserve at a 1:1 Ratio	53,000
ENHANCEMENT & MONITORING TOTAL	Total Anticipated Enhancement (Enhancement & Monitoring) for Impacts to Buckwheat Scrub, Coastal Sage Scrub, and Open Engelmann Oak Woodland Habitats Within Preserve Areas	59,600

In addition, SDG&E proposes to include 59,600 sq. ft. of anticipated temporary impacts to sensitive habitats located within Preserve areas in the SDG&E Enhancement and Monitoring Program. The Enhancement and Monitoring Program consists of two components: the active enhancement of areas containing sensitive vegetation located within Preserve areas that are temporarily impacted by project-related activities, and the monitoring of areas containing sensitive vegetation located within Preserve areas that are temporarily impacted by project-related activities which are expected to recover on their own. Six thousand and six hundred square feet of the above mentioned temporary impacts will be mitigated through active site enhancement. Fifty-three thousand square feet of the above mentioned temporary impacts will be mitigated through monitoring of the impacted habitat. Habitat that is expected to recover on its own consists of grassland, in which the majority of species are non-native in origin. Because SDG&E does not actively enhance non-native vegetation, and because this habitat type is generally considered resilient enough to completely regenerate to pre-activity levels without active enhancement measures, these areas will be monitored in order to determine whether or not they meet success criteria. If success criteria for both enhancement and monitoring areas are not met after 3 years, SDG&E proposes to withdraw the appropriate amount of credit for these areas from the SDG&E mitigation bank at a 1:1 ratio.

Work crews shall follow all appropriate *SDG&E NCCP Operational Protocols* to avoid and minimize impacts to resources as a result of project-related activities within the project area.

Impacts associated with the operations and maintenance of existing facilities are pre-mitigated for the term of the permit by SDG&E's agreement to restrict development other than SDG&E's activities on fee-owned ROWs which contain habitat, connect fragmented habitat areas, or contribute to the carrying capacities of the Preserve areas in the region. SDG&E agrees to limit its use of such ROWs to utility activities. Therefore, mitigation for operations and maintenance of existing facilities located outside the Preserve is not required. Please see Appendix G for photographic documentation of representative poles and vegetation communities to be replaced prior to construction and Appendix B for Figure 5; TL 637 Land Ownership Map.

6.9. AQUATIC RESOURCES

Sixty-seven drainages or features, potentially subject to USACE, CDFW and RWQCB jurisdiction are located within the proposed project area, however all but 17 have been avoided. Eleven poles, (P148, P149, P150, P103, P104, P105, P106, R107, P114, P152 and P129) are located within wet meadows that have been determined to be jurisdictional by the USACE and RWQCB. Six poles (R10, R169, R171, D167, R11, and R13) are located within an unvegetated streambed/waters of the U.S. (adjacent to Creelman Road) that has been determined to be jurisdictional by CDFW, USACE and the RWQCB.

Avoidance and Minimization of Jurisdictional Impacts

To minimize impacts to aquatic resources, an effort was made to relocate poles outside of jurisdictional areas whenever possible. However, being part of an existing TL limits placement of the new poles due to consistency in alignment. Several existing poles within TL 637 are proposed to be relocated outside of a jurisdictional area including poles P104, P105, P106, P114 and P129. Pole R107 is in a disturbed wetland feature and has been proposed to be eliminated from the line. Existing pole P103 is located within a wet meadow and the new pole location is still within a disturbed wetland (wet meadow), but it is now immediately adjacent to an existing dirt access road that will minimize wetland impacts during future maintenance activity.

Permanent Impacts

Replacement of existing poles P148, P149, P150 and P103 with new steel poles will occur within disturbed wetland areas (wet meadow). Access to the poles will occur off adjacent dirt roads. A total of 98 sq. ft. (0.002 acre) of permanent impacts to disturbed wetlands is anticipated for these poles.

Temporary Impacts

Temporary impacts associated with pole removal and replacement activities include access to the poles and work space around the poles. The replacement of poles and removal of pole butts will occur within the same workspace. As mentioned, temporary impacts associated with pole butt removals are anticipated. However, as stated in the avoidance and minimization measures provided in the RWQCB 401 certification application, if it is determined in the field that pole butt removal activities will cause a significant impact to a drainage feature, the poles will be cut at ground level and left in place. Steel plates and a temporary bridge are anticipated to be used to span over three jurisdictional areas to provide access during construction.

Permitting

USACE and RWQCB - Project activities in drainage and wetland feature areas will be carried out under non-notifying Nationwide Permit #12 issued by USACE, and a 401 Certification from RWQCB (Certification No. 11C-114; Categorical Exemption). Permanent impacts to USACE jurisdictional wetlands associated with the pole removals and replacement are 98-sq. ft. Temporary impacts to USACE jurisdictional wetlands are 0.13 acre, and the temporary impacts to streambed are 0.04 acre. Compensatory mitigation was not required due to the minimal permanent impacts.

The San Diego RWQCB determined that the project is categorically exempt from CEQA pursuant to CEQA Guidelines section 15301 (b). The exemption applies to the repair and maintenance of existing structures. Specifically, the replacement of the existing wood poles constitutes maintenance of existing facilities to provide electric power, as identified in section 15301 (b).

CDFW - The temporary impacts (0.04 acre) associated with the removal of six poles within CDFW jurisdiction will not substantially adversely affect an existing fish or wildlife resource; therefore, a Streambed Alteration Agreement notification was not submitted.

SECTION 7.0 – AVOIDANCE AND MINIMIZATION OF IMPACTS TO BIOLOGICAL RESOURCES

The proposed project has been designed to avoid sensitive habitat areas that may support special status species and sensitive biological resources when possible, including not placing poles in drainage areas, using existing access roads to the greatest extent possible, and placing staging areas, laydown areas, guard structures, and helicopter landing areas outside habitats when feasible. Where avoidance of sensitive habitat areas supporting special status wildlife is not possible, or where sensitive habitat areas exist adjacent to proposed project work areas, SDG&E would implement all applicable *SDG&E NCCP Operational Protocols* and NCCP guidelines to ensure these impacts remain less than significant. Additionally, required pre-activity surveys, pursuant to the *SDG&E Subregional NCCP*, would also confirm the absence of any other special status species not covered under the *SDG&E Subregional NCCP*. If any non-Covered special status species are identified during the surveys, compliance with Sections 7.1 and 7.2 of the *SDG&E Subregional NCCP* would provide avoidance and minimization of impacts, as applicable. The presence or potential presence of a non-Covered Species is expected to be limited to the purple martin (present) and the white-tailed kite (present). The avoidance of any impacts to these species is expected through compliance measures in the *SDG&E Subregional NCCP*.

7.1. SDG&E OPERATIONAL PROTOCOLS (INCORPORATED INTO PROPOSED PROJECT DESIGN)

SDG&E has a long history of implementing the *SDG&E Subregional NCCP* and related operational protocols for projects such as the proposed project. The *SDG&E NCCP Operational Protocols* represent an environmentally sensitive approach to traditional utility construction, maintenance and repair activities recognizing that slight adjustments in construction techniques can yield major benefits for the environment. The appropriate *SDG&E NCCP Operational Protocols* for each individual project would be determined and documented by the Environmental Surveyor, which in the context of a wood to steel replacement project would be the lead natural resources representative from SDG&E in conjunction with the lead biological resources monitor from the private biological consulting firm contracted for the job.

Typical Operational Protocols for a wood to steel replacement project include, but are not limited to, the following; a pre-activity study report (PSR) for all impacts occurring in natural areas, biological monitoring of all activities occurring in natural areas, flagging of sensitive habitat for avoidance by the biological monitor, and the review and approval of the biological monitor for all activities occurring in sensitive areas where disturbance to habitat may be unavoidable. In addition, per the *SDG&E NCCP Implementing Agreement*, SDG&E is required to prepare and submit an annual report to the CDFW and the USFWS describing the amount and type of habitats impacted and the activities causing these impacts. In order to meet this requirement, SDG&E's biological consultant will prepare a post-construction report (PCR) detailing the actual impacts caused by the proposed project. This report will be used to determine the appropriate habitat enhancement and credit drawdown from the SDG&E mitigation bank after the proposed Project has been constructed.

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APPENDIX A – WATER PERMITS





EDWIN G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

California Regional Water Quality Control Board, San Diego Region

May 16, 2012

In reply refer to:
775614: amonji

Alan Dusi
San Diego Gas & Electric
8315 Century Park Avenue, CP21E
San Diego, CA 92123

Dear Alan Dusi:

SUBJECT: ACTION ON REQUEST FOR CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION APPLICATION NO. 11C-114

Enclosed find Clean Water Act Section 401 Water Quality Certification for discharges to Waters of the U.S. and acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017-DWQ for the Wood to Steel Project—TL 637(Project).

Any petition for reconsideration of this Certification must be filed with the State Water Resources Control Board within 30 days of certification action (23 CCR § 3867). If no petition is received, it will be assumed that you have accepted and will comply with all the conditions of this Certification. Failure to comply with all conditions of this Certification may subject you to enforcement actions by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to \$10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

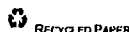
In the subject line of any response, please include the requested "In reply refer to:" information located in the heading of this letter.

Respectfully,

DAVID W. GIBSON
Executive Officer

GRANT DESTACHE, CHAIR | DAVID GIBSON, EXECUTIVE OFFICER

19174 Sky Park Court, Suite 100, San Diego, CA 92123 | (858) 467-2952 | www.waterboards.ca.gov/sandiego





EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

California Regional Water Quality Control Board, San Diego Region

Action on Request for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Discharge of Dredged and/or Fill Materials

PROJECT:

Project:	Wood to Steel Project—TL 637
Certification No:	11C-114
WDID:	9 000002400
Place ID:	775614

APPLICANT:

Representative:	Alan Dusi
Applicant:	San Diego Gas & Electric
Street Address	8315 Century Park Avenue, CP21E
City, State, ZIP:	San Diego, CA 92123

ACTION:

☒ Order for Low Impact Certification	☐ Order for Denial of Certification
☐ Order for Technically-conditioned Certification	☐ Waiver of Waste Discharge Requirements
☒ Enrollment in SWRCB GWDR Order No. 2003-017 DWQ	☐ Enrollment in Isolated Waters Order No. 2004-004 DWQ

PROJECT DESCRIPTION:

The applicant proposes to replace four existing poles with direct bury heavy steel poles or micropile poles. The new steel poles, which will provide continuous reliable electrical service, prevent service outages, and replace outdated equipment. Installation of steel poles will reduce damage to the utilities in the event of a fire, thereby increasing reliability. The remaining thirteen wood poles will be removed and the power lines rerouted to other existing poles.

TABLE OF CONTENTS

I. STANDARD CONDITIONS:.....	3
II. ADDITIONAL CONDITIONS: GENERAL	3
III. ADDITIONAL CONDITIONS: CONSTRUCTION BMPs.....	4
IV. ADDITIONAL CONDITIONS: POST-CONSTRUCTION BMPs.....	6
V. ADDITIONAL CONDITIONS: COMPENSATORY MITIGATION.....	7
VI. NOTIFICATION REQUIREMENTS:.....	8
VII. REPORTING REQUIREMENTS:.....	8
VIII. CEQA FINDINGS:.....	9
IX. PUBLIC NOTIFICATION OF PROJECT APPLICATION:	9
X. WATER QUALITY CERTIFICATION:.....	11

I. STANDARD CONDITIONS:

The following three standard conditions apply to all Certification actions, except as noted under Condition 3 for denials.

- A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
- B. This Certification action is not intended and must not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- C. The validity of any non-denial Certification action must be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

II. ADDITIONAL CONDITIONS: GENERAL

- A. This Clean Water Act Section 401 Water Quality Certification No. 11C-114 (Certification) is only valid if the project begins no later than 5 (five) years from the date of issuance. If the project has not begun within 5 years from the date of issuance, then this Certification expires.
- B. San Diego Gas & Electric must notify the San Diego Water Board of any change in ownership or transfer of certification responsibilities associated with the project or mitigation areas. Notification of change in ownership or transfer of responsibilities must include, but not be limited to, a statement that San Diego Gas & Electric has provided the purchaser/transferee with a copy of the Section 401 Water Quality Certification and that the purchaser/transferee understands and accepts the certification requirements and acknowledges the obligation to implement them and be subject to liability for failure to do so. San Diego Gas & Electric and the purchaser/transferee must sign and date the notification and provide such notification to the Executive Officer of the San Diego Water Board within 10 days of the transfer. Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to San Diego Gas & Electric will be interpreted to refer to the transferee as appropriate. Transfer does not necessarily relieve San Diego Gas & Electric of responsibilities within this Certification in the event that a transferee fails to comply.
- C. San Diego Gas & Electric must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification*. These General Waste Discharge Requirements are accessible at: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

- D. San Diego Gas & Electric must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the San Diego Water Board, to support this Certification. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the San Diego Water Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.
- E. During construction, San Diego Gas & Electric must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.
- F. San Diego Gas & Electric must permit the San Diego Water Board or its authorized representative at all times, upon presentation of credentials:
 - 1. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.
 - 2. Access to copy any records required to be kept under the terms and conditions of this Certification.
 - 3. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.
 - 4. Sampling of any discharge or surface water covered by this Order.
- G. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
- H. In response to a suspected violation of any condition of this Certification, the San Diego Water Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the San Diego Water Board deems appropriate, provided that the burden, including costs, of the reports must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
- I. In response to any violation of the conditions of this Certification, the San Diego Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.

III. ADDITIONAL CONDITIONS: CONSTRUCTION BMPs

- A. Prior to the start of the project, and annually thereafter, San Diego Gas & Electric must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and Best Management Practices (BMPs) implementation and maintenance.
- B. San Diego Gas & Electric must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.

- C. If applicable, San Diego Gas & Electric must enroll in and comply with the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, NPDES No. CAS000002, *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, and any subsequent reissuance as applicable.
- D. If applicable, San Diego Gas & Electric must enroll in and comply with the requirements of San Diego Water Board Order No. 2008-0002, *General Waste Discharge Requirements and NPDES Permit for discharges from groundwater extraction waste to surface waters within the San Diego Region except for San Diego Bay*, and any subsequent reissuance as applicable.
- E. The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the San Diego Water Board pursuant to CWC § 13263.
- F. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat.
- G. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or the State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area must be removed at the end of each work day or sooner if rain is predicted.
- H. All surface waters, including ponded waters, must be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity that may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary cofferdam or other artificial obstruction constructed must only be built from materials such as steel or fiberglass sheetpile which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location. If storm discharges through the project area threaten to exceed the capacity of flow bypass systems to effectively manage the flow rate, San Diego Gas & Electric shall direct the removal of equipment, construction materials, and all suspendable debris from within the dewatered construction cofferdam area and stabilization of areas within and downstream of the cofferdam by laying a temporary geosynthetic discharge apron to avoid spillway scour of sediments. The project is to be constructed in the dry season to avoid high flow conditions, however, San Diego Gas & Electric shall prepare and maintain a contingency plan to address high flow conditions should they occur during construction.
- I. All areas that will be left in a rough graded state must be stabilized no later than one week after completion of grading. San Diego Gas & Electric and subsequent owners, are responsible for implementing and maintaining BMPs to prevent erosion of the rough graded areas to prevent flow from this area from causing negative impacts to beneficial uses. After completion of grading, all areas must be revegetated with native species appropriate for the area. The revegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be found online at <http://www.cal-ipc.org/ip/inventory/weedlist.php>. Where riprap is replaced at the channel crest to stabilize areas around the abutments, care shall be taken so as not to discharge rip rap down the channel slopes to the channel floor.

- J. Except as authorized by this certification, substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.
- K. Removal of vegetation must occur by hand, mechanically, or using United States Environmental Protection Agency approved herbicides deployed using applicable BMPs to prevent impacts to beneficial uses of waters of the United States and/or State. Use of aquatic pesticides must be done in accordance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, and any subsequent reissuance as applicable.

IV. ADDITIONAL CONDITIONS: POST-CONSTRUCTION BMPs

- A. San Diego Gas & Electric is prohibited from allowing post-construction discharges to cause onsite or offsite erosion, damage to properties or damage to habitats in receiving waters that will receive post-construction discharges from the project site.
- B. Any storm drain inlet structures within the project boundaries must be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.
- C. Any post-construction treatment BMPs, including those described in the project application, must be sized to comply with the following numeric sizing criteria and treat 100 percent of the impervious surfaces associated with the project:
 - 1. Volume
Volume-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:
 - a. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (e.g. 0.6 inch approximate average for the San Diego County area); or
 - b. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event; or
 - 2. Flow
Flow-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:
 - a. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
 - b. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
 - c. The maximum flow rate of runoff, as determined from the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

- D. Post-construction BMPs must be installed and functional prior to occupancy and/or planned use of development areas.
- E. All post-construction treatment BMPs and storm water discharge points must:
 - 1. Be regularly inspected and maintained for the life of the project per manufactures' specifications and industry standards;
 - 2. Have all preventive and corrective maintenance performed;
 - 3. Be inspected no less than one time per year, immediately prior to the commencement of the rainy season (October 1) and after every storm event exceeding 0.5 inches of precipitation; and
 - 4. Be properly documented in a log containing all BMP inspections and maintenance activities.

V. ADDITIONAL CONDITIONS: COMPENSATORY MITIGATION

- A. The mitigation for the project must fully comply with the latest habitat mitigation and monitoring plans, specifications, and technical reports submitted to the San Diego Water Board to support this Certification and all subsequent submittals required as part of this Certification. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the San Diego Water Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.
- B. Mitigation shall consist of relocating several existing poles outside of a jurisdictional area including pole Z416648, Z416649, and Z416650. In addition, placing Pole Z416647 adjacent to an existing dirt access road will minimize wetland impacts during future maintenance activity.
- C. Mitigation areas must be maintained free of perennial exotic plant species in perpetuity including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the on-site restoration area(s).
- D. For purposes of this Certification, establishment is defined as the creation of vegetated or unvegetated waters of the United States and/or State where the resource has never previously existed (e.g. conversion of nonnative grassland to a freshwater marsh). Restoration is divided into two activities, re-establishment and rehabilitation. Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the United States and/or State previously existed (e.g., removal of fill material to restore a drainage). Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated waters of the United States and/or State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species). Enhancement is defined as the improvement to one or two functions of existing vegetated or unvegetated waters of the United States and/or State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species). Preservation is defined as the acquisition and legal protection from future impacts in perpetuity of existing vegetated or unvegetated waters of the United States and/or State (e.g., conservation easement).

VI. NOTIFICATION REQUIREMENTS:

- A. San Diego Gas & Electric must report to the San Diego Water Board any noncompliance that may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time San Diego Gas & Electric becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time San Diego Gas & Electric becomes aware of the circumstances. The written submission shall contain a written description of the incident and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours.
- B. San Diego Gas & Electric must notify the San Diego Water Board in writing **at least 5 days prior to** the actual commencement of dredge, fill, and discharge activities.
- C. San Diego Gas & Electric must notify the San Diego Water Board in writing within **5 days** following the completion of mitigation.
- D. San Diego Gas & Electric must submit a Final Project Report within **60 days** of completion of the project, including mitigation construction. The Final Project Report must include:
 - 1. Stream photodocumentation in accordance with:
http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf
 - 2. GIS shapefiles of the impacts/mitigation site.
 - 3. A demonstration of project and mitigation completion.
 - 4. Any mitigation site monitoring, including for success criteria, required under V.A. of this Certification.

VII. REPORTING REQUIREMENTS:

- A. The submittal of information under this Certification is required pursuant to California Water Code (CWC) sections 13267 and 13283. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit required information pursuant to CWC section 13268 or 13385.
- B. All reports and information submitted to the San Diego Water Board must be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.
- C. All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:

1. For a corporation, by a responsible corporate officer of at least the level of vice president.
 2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
 3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
 4. A duly authorized representative may sign applications, reports, or information if:
 - a. The authorization is made in writing by a person described above.
 - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
 - c. The written authorization is submitted to the San Diego Water Board Executive Officer.
- D. All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:
- "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*
- E. San Diego Gas & Electric must submit reports required under this Certification, or other information required by the San Diego Water Board, to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification No. 11C-114,
Place ID No. 775614
9174 Sky Park Court, Suite 100
San Diego, California 92123

VIII. CEQA FINDINGS:

- A. The San Diego Water Board finds that the project is categorically exempt from CEQA pursuant to CEQA Guidelines section 15301 (b). The exemption applies to the repair and maintenance of existing structures. Specifically, the replacement of the existing wood poles constitutes maintenance of existing facilities to provide electric power, as identified in section 15301 (b).

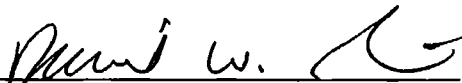
IX. PUBLIC NOTIFICATION OF PROJECT APPLICATION:

- A. The receipt of the project application was posted on the San Diego Water Board web site for a minimum of 21 days to serve as appropriate notification to the public. No public comments were received.

X. WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the Rose Creek Bike Path and Pedestrian Bridge Project (Project No. 11C-114) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Water Quality Control Plan for the San Diego Basin Region (9) (Basin Plan).



DAVID W. GIBSON
Executive Officer
Regional Water Quality Control Board

Date 5-16-12

Electronic Distribution:

U.S. EPA:
State Water Board:
U.S. Army Corps of Engineers:
CDFG:
Consultant:

R9-WTR8-Mailbox@epa.gov
Stateboard401@waterboards.ca.gov
Peggy.i.bartels@usace.army.mil
kfisher@dfg.ca.gov
tspear@semprautilites.com

Tech Staff Info & Use	
File No.	11C-114
WDID	9 000002400
Reg. Measure ID	382787
Place ID	775614
Party ID	39618
Person ID	531097

Notice of CEQA Exemption*Form D*

To: Office of Planning and Research
PO Box 3044, Room 212
Sacramento, CA 95812-3044

From: California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Project Title: Wood to Steel Project – TL 637

Project Location: Creelman Road, Ramona.
Latitude: 33.09999, Longitude: -117.6733

Project Location - City: Ramona **Project Location – County:** San Diego

Description of Project: San Diego Gas & Electric (SDG&E) existing Transmission Line (TL) 637, of which poles Z416692, Z416693, Z416684, and Z416697 are a part of, is being upgraded to provide continued reliable service, prevent outages and replace outdated equipment. Existing wood poles will be replaced with direct bury heavy steel poles or micropile poles. Installation of the new steel poles will reduce damage to the utilities in the event of a fire, thereby increasing reliability. Permanent impacts associated with the four pole replacements is 98-square feet. As part of the project activity, seventeen poles (including the portion buried underground, referred to as "pole butts") will be removed. The temporary impacts associated with the pole removal activity is 0.17 acre. All work will occur within an existing utility easement and work will be scheduled to avoid rain events.

Name of Public Agency Approving Project: California Regional Water Quality Control Board, San Diego Region

Name of Person or Agency Carrying Out Project: San Diego Gas & Electric

Exempt Status:

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
☒ **Categorical Exemption.** State type and section number: *Class I, Section 15301(b) Existing Facilities*
☐ Statutory Exemptions. State code number:

Reason why project is exempt: Repair, or maintenance of an existing facility involving negligible or no expansion of an existing use. Replacement or reconstruction of existing utility systems and facilities involving negligible or no expansion of capacity.

Lead Agency: California Regional Water Quality Control Board – San Diego Region

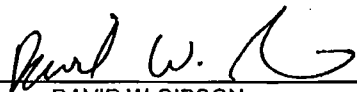
Contact Person: Alan Monji

Telephone: (858) 637-7140

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the projects? ☐ Yes ☐ No

Signature:


DAVID W GIBSON

Date: 5-16-2012 **Title:** Executive Officer

Date received for filing at OPR: _____

- ☒ Signed by Lead Agency
☐ Signed by Applicant



California Regional Water Quality Control Board San Diego Region



Over 50 Years Serving San Diego, Orange, and Riverside Counties
Recipient of the 2004 Environmental Award for Outstanding Achievement from USEPA

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
<http://www.waterboards.ca.gov/sandiego>

APPLICATION FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION

All applicants **must** provide a complete and detailed response to all sections of the application or the application will be deemed incomplete. Responses should not refer reader to an attachment. Any responses by reference must indicate the specific document(s) and page number(s) (include copies of the entire document). Indicate by Not Applicable (NA) all sections that do not apply, **along** with an explanation of why the project is exempt from the section.

1. APPLICANT/AGENT INFORMATION	
Applicant's Name: San Diego Gas & Electric (SDG&E) Alan Dusi, Project Manager	Authorized Agent's Name and Title: Tamara Spear, Environmental Specialist SDG&E
Applicant's Address: 8315 Century Park Court, CP21E San Diego, CA 92123	Agent's Address: 8315 Century Park Court, CP21E San Diego, CA 92123
Applicant's Phone: (858)6365784	Agent's Phone: (858)637-3740
Applicant's Fax: (858)637-3700	Agent's Fax: (858)637-3700
Applicant's Email: adusi@semprautilities.com	Agent's Email: tspear@semprautilities.com

STATEMENT OF AUTHORIZATION	
I hereby authorize _____ to act in my behalf as my agent in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.	
Applicant's Signature (This must be signed by the applicant, not the authorized agent.)	Date

2. PROJECT/ACTIVITY INFORMATION
PROJECT NAME OR TITLE Wood to Steel Project - TL 637

California Environmental Protection Agency

LOCATION OF PROJECT (See instructions.)

Street Address Crestman Road in Ramona, San Diego County Estates and private property (Tulloch Ranch) in Santa Ysabel

County San Diego City Communities of San Diego County Estates, Ramona & Santa Ysabel

Assessor's Parcel Number(s) See Table 1- Eight parcels

Hydrologic Unit, Area, and Subarea San Dieguito HU and San Diego River HU

Provide latitude and longitude for the proposed project.

Latitude See Table 1 Longitude _____ (Center Reading)

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

DIRECTIONS TO PROJECT SITE (See instructions.)

From I-15, exit Scripps Poway Pkwy heading east. Turn left on to Highway 67, heading north through Ramona where Hwy 67 becomes Highway 78, past the Santa Ysabel Substation and enter a private dirt access road. (See Thomas Bros pages 1153, 1154, and 1135)

OWNERSHIP

Does the applicant own the project site? Yes ☐ No ☒

If the project site is not owned by the applicant, provide the name(s), address(es), and phone number(s) for the property owner(s) as well as evidence that the applicant has the necessary approvals to construct the project at this location.

SOG&E has utility easements along the transmission line, and the work will occur entirely within the easements. Project activity will occur within eight different parcels. Seven of the parcels are owned by the Tulloch Family and one parcel is owned by Jeff Wood. For further information, see attached Table 1.

Tulloch Family
28223 Hwy 78
Ramona, CA 92065

Jeff Wood
9727 Castlec Ct
SanDiego, CA 92071

Does the applicant plan on selling all or a portion of the site after receiving the necessary approvals?

Yes ☐ No ☒

Does the applicant plan on selling all or a portion of the site prior to starting construction?

Yes ☐ No ☒

California Environmental Protection Agency

If yes, provide the name(s), address(es), and phone number(s) of the future land owner(s)

Does the applicant plan on transferring the certification after receiving the necessary approvals and/or prior to starting construction?

Yes ☐

No ☒

If yes, provide the name(s), address(es), and phone number(s) of the future transferee(s)

AFFECTED WATER BODY(IES) (See instructions)

List all affected water body(ies)

Unnamed tributary to Santa Maria Creek; wet meadow adjacent to San Vicente Creek; wet meadow adjacent to Dye Creek; unnamed tributary to San Diego River; wet meadow, adjacent to Witch Creek; wet meadow adjacent to an unnamed tributary to Santa Ysabel Creek.

List water velocities and shear for the 2, 5, 10, 50, and 100 storm water elevations for each water body.

N/A

Are any of the water body(ies) considered isolated per SWANCC or Rapanos? Yes ☐

No ☒

NEED FOR PROJECT (See instructions)

Existing Transmission Tie-Line (TL) 637 is being upgraded to provide continued reliable electrical service, prevent service outages, and replace outdated equipment. Existing wood poles will be replaced with direct bury heavy steel poles or micropile poles. Installation of steel poles will reduce damage to the utilities in the event of a fire, thereby increasing reliability.

California Environmental Protection Agency

DESCRIPTION OF ACTIVITY (See instructions)

Replacement of poles existing Z416692, Z416693, Z416694 and Z416647 with new steel poles. Temporary impacts are associated with the removal of 17 pole butts and placement of steel plates to provide access in three locations. (See attached Table 1)

Has any portion of the work been initiated? Yes ☐ No ☒

If yes, describe the initiated work and explain why it was initiated prior to obtaining a permit; indicate whether any enforcement action has been taken against the project.

AVOIDANCE OF IMPACTS (See instructions.)

Every effort is made to relocate poles outside of jurisdictional areas whenever possible. However, being part of an existing tie-line limits placement of the new poles because the poles have to stay in alignment.

Several existing poles within TL 637 have been relocated outside of a jurisdictional area including pole Z416648, Z416649, and Z416650.

Pole Z416651 has been eliminated.

Pole Z416647 - Existing Pole Z416647 is located within a wet meadow and accessing the pole for maintenance impacts wet meadow. The new pole location is still within a wetland, but it is now immediately adjacent to an existing dirt access road that will minimize wetland impacts during future maintenance activity.

California Environmental Protection Agency

MINIMIZATION OF IMPACTS (See instructions.)

Existing dirt and paved access roads will be used to access all pole locations.

To minimize access impacts when removing pole butts located within a wet meadow, only footpaths will be used, which does not require vegetation mowing or trimming. The pole butts will be removed using a helicopter or the poles will be cut into pieces by hand and carried out.

Although SDG&E's intent is to remove the 17 poles described in Table 1, if field conditions during construction indicate the pole butt can not be removed without causing a substantial impact, then the pole butt will be cut off at ground level and the base or "pole butt" will be left in place.

The hole remaining after removal of the pole butt will be filled with gravel and the last one to two feet will be clean fill dirt. The soil at the top of the filled hole will then be seeded with appropriate native vegetation.

California Environmental Protection Agency

PROTECTION OF WATER QUALITY – CONSTRUCTION (See instructions.)

Appropriate Best Management Practices(BMPs) will be used to prevent erosion and off-site sedimentation.

Before scheduling the project activity, the weather forecast will be monitored. Work will not be scheduled if a >40% chance of rain is forecasted during the time needed to complete the project activity. If rain does unexpectedly occur during the project activity, the will be secured (fiber rolls) to prevent erosion and sedimentation.

If project activities are conducted during bird nesting season (February 15-September 1), a qualified biologist shall conduct a nesting bird survey within 48 hours prior to commencement of vegetation clearing activities to determine if nesting birds are present and make sure that impacts are avoided.

A biological monitor with the authority to stop work if necessary, will be present on-site as needed to ensure the project description, and minimization measures described in this application and the 401 Certification are complied with.

Stockpiled material from digging the new pole holes will be placed on a water proof tarp. If left overnight, the stockpile will be covered and properly secured.

After replacing the new poles, the soil around the base of the pole will be compacted to avoid erosion.

California Environmental Protection Agency

PROTECTION OF WATER QUALITY – POST-CONSTRUCTION (See instructions.)

Any excess spoil generated by project activities will be removed from the project site and legally disposed of off-site.

All areas requiring vegetation trimming to provide access or work space will be allowed to re-establish.

Any vegetation that has been mowed or trimmed to provide access or work space will be removed and legally disposed of off-site.

Appropriate BMP measures will be installed after construction to prevent erosion and off-site sedimentation.

California Environmental Protection Agency

PROTECTION OF WATER QUALITY – IMPAIRED WATER BODY(IES). (See instructions)

Are any of the water body(ies) within the project area, including impacted and preserved water body(ies), list as impaired on the Clean Water Act Section 303(d) list?

Yes ☐ No ☒

Are any of the water body(ies) within the project area a tributary to a Clean Water Act Section 303(d) water body(ies)?

Yes ☐ No ☒

Are any of the water body(ies) within the project area the subject of an adopted Total Maximum Daily Load (TMDL)?

Yes ☐ No ☒

If yes to any of the above, provide a detailed description of the actions that will be taken to ensure that the project does not contribute additional pollutants to the water body(ies). Include a discussion of the pollutants causing the impairment, potential sources of pollutants, and construction and post-construction BMPs.

STATE OR FEDERALLY THREATENED OR ENDANGERED SPECIES IMPACTED BY THIS PROJECT
(See instructions)

Are any state or federally threatened or endangered species potentially impacted by this project?

Yes ☐ No ☒

If yes, provide a list of the potentially impacted species (with common name)

California Environmental Protection Agency

FILL AND DREDGE INFORMATION (See instructions.)

Water Body Type	Permanent Impact		Temporary Impact	
	Acres	Linear Feet	Acres	Linear Feet
ACOE Jurisdictional Wetland	98 sq. ft.	n/a	0.13 acre	n/a
Streambed			0.04 acre	
Lake/Reservoir				
Ocean/Estuary/Bay				
Isolated Water (per SWANCC or Rapanos)				
CDFG Jurisdiction Only				

Provide the latitude and longitude for the proposed impacts

Latitude See Table 1 Longitude _____ (Center Reading)

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Does the project involve dredging? Yes ☒ No ☐

If yes, provide the required information (See instructions.)

Digging holes to replace the poles at four locations. Permanent impacts are 98-square feet.

Provide the latitude and longitude of the proposed dredging area.

Latitude See attached Table 1 Longitude _____ (Center Reading)

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Latitude _____ Longitude _____

California Environmental Protection Agency

DELINEATION INFORMATION (See instructions.)

Has the delineation been verified by the U.S. Army Corps? _____

Yes ☐

No ☒

If yes, provide the date of verification. _____

Does the wetland delineation include the Arid West Region supplement? _____

Yes ☒

No ☐

Provide the name, title, and affiliation of the person delineating the extent of Waters of the U.S. Also provide the date(s) of the wetland delineation.

N. Cervin and M. Mazon, Chambers Group, July 2011.

3. OTHER LICENSES/PERMITS/AGREEMENTS

OTHER APPROVALS (See instructions)

Agency	Contact (Include phone number, email)	License/Permit/Agreement	File Number	Date Applied	Status
Army Corps of Engineers	Peggy Bartels (760)602-4832	Non-notifying NWP #12	n/a	n/a	Non-notifying
California Department of Fish and Game	Kelly Fisher (858)467-4207	Streambed Alteration Agreement 1602	n/a	n/a	Temporary permits only less than 12 months

Does the project require a Federal Energy Regulatory Commission (FERC) license or amendment to a FERC license?

Yes ☐

No ☒

California Environmental Protection Agency

4. COMPENSATORY MITIGATION

Is compensatory mitigation proposed? Yes ☐ No ☒

(See instructions for definitions.)

Water body Type/Plant Community Type	Establishment (Acres, Linear Feet)	Restoration (Acres, Linear Feet)	Enhancement (Acres, Linear Feet)	Preservation (Acres, Linear Feet)

How many acres or linear feet of mitigation area are considered waters of the U.S.?

n/a

What is the range of depths to groundwater across the proposed mitigation area?

n/a

Is the mitigation site owned by the applicant? Yes ☐ No ☐

If no, provide the name(s), address(es), and phone number(s) of the land owner and evidence (e.g., agreements, contracts, etc.) that the applicant has the necessary approvals to implement mitigation at this location. If the land is to be purchased, provide the expected date that the purchase will be complete.

n/a

Provide the location of the Compensatory Mitigation.

Street Address _____

County _____ City _____

Assessor's Parcel Number(s) _____

Hydrologic Unit, Area, and Subarea _____

California Environmental Protection Agency

Latitude _____	Longitude _____ (Center Reading)
Latitude _____	Longitude _____
Latitude _____	Longitude _____
Latitude _____	Longitude _____
Latitude _____	Longitude _____

MITIGATION BANK/IN-LIEU FEE PROGRAM (If proposed, See instructions.)

Mitigation Bank/In-Lieu Fee Name n/a

Name of Mitigation Bank/In-Lieu Fee Operator n/a

Office Address of Operator/Phone Number n/a

Mitigation Bank/In-Lieu Fee Location: Latitude n/a Longitude n/a

County n/a City n/a

Mitigation Bank/In-Lieu Fee Water Body type(s) n/a

Mitigation Area (acres or linear feet) and cost (dollar): n/a

5. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)	
Document Type/Title: <u>Notice of Exemption, Category 1</u>	
Lead Agency and Contact Information (name, address, phone number):	
Name <u>Regional Water Control Board</u>	
Address <u>9174 Sky Park Court, Suite 100</u>	
<u>San Diego, CA 92123</u>	
Contact: <u>Alan Monji</u>	
Phone Number <u>(858) 637-7140</u>	
State Clearinghouse Number <u>n/a</u>	
Has the document been certified/approved and/or has a Notice of Exemption been filed?	
Yes ☐	No ☒
(If yes, include a copy of the certification. If no, provide the expected approval date and document type.)	
Is this project considered an "emergency" pursuant to CEQA? Yes ☐ No ☒	
*Note: Section 401 certification will not be granted without a certified CEQA document	

California Environmental Protection Agency

6. ADDITIONAL INFORMATION

PAST/FUTURE IMPACTS AND CUMULATIVE IMPACTS (See instructions.)

The utility easement associated with this project has been used for several decades. The proposed activity will not alter the existing situation, so no new cumulative impacts will occur in the future as a result of the proposed pole replacements.

7. APPLICATION FEE

FILING FEE

A fee deposit of \$944.00 is required to be submitted with this application. Additional fees, based on the extent of impacts, may be due. A fee schedule and calculator can be found at:
http://www.waterboards.ca.gov/water_issues/programs/cwa401/

Is check payable to the "State Water Resources Control Board" attached?

Yes



No



Check No 1130855

Amount 944.00

8. SIGNATURE

I hereby certify under penalty of perjury that the information provided in this application and in any attachments are true and accurate to the best of my knowledge. I further certify that I possess the necessary authority to undertake work described in this application.

Applicant's Printed Name

Title

Applicant's Signature

(This must be signed by the applicant, not the authorized agent)

Date

Attach the appropriate fee and any additional documents and submit this application to:

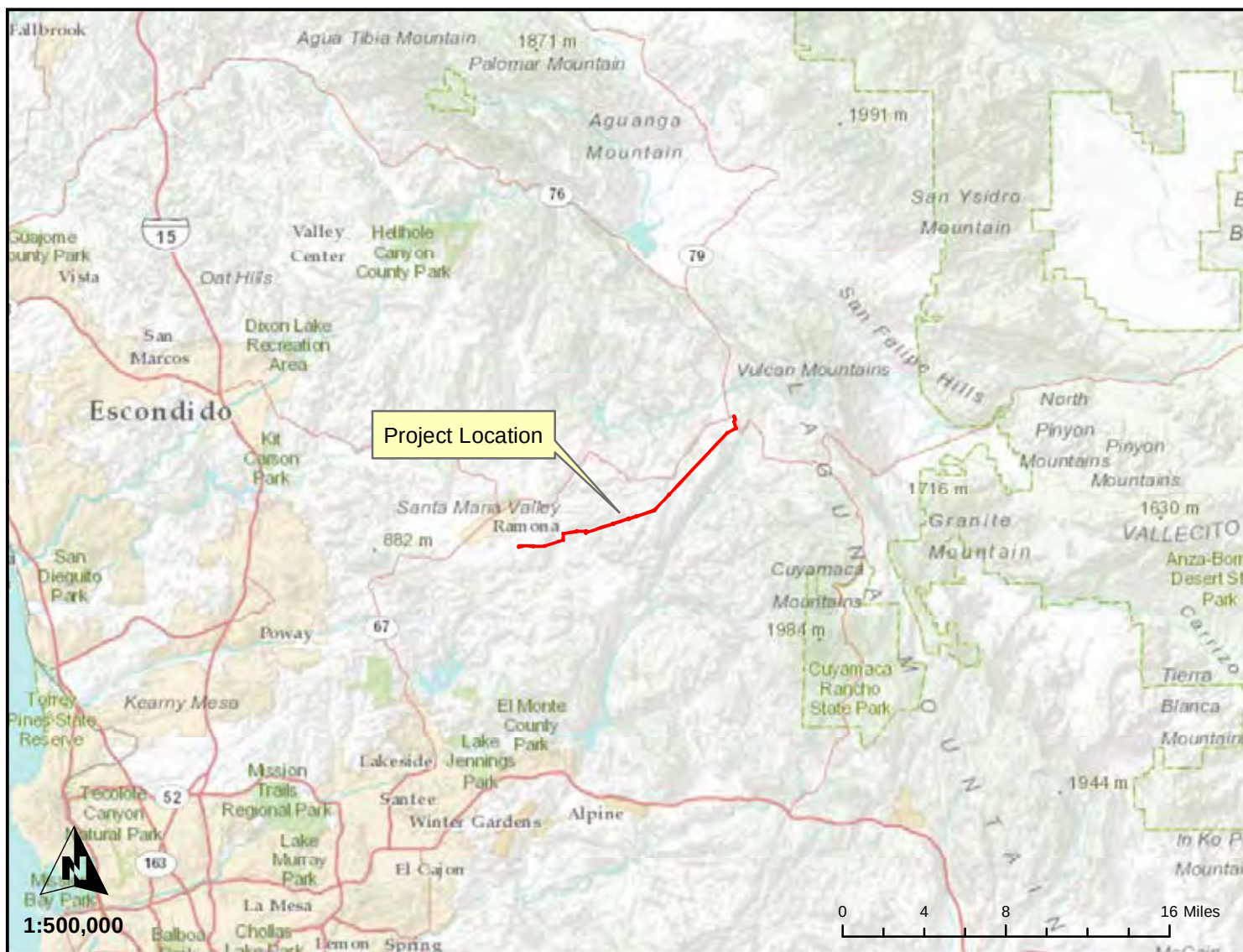
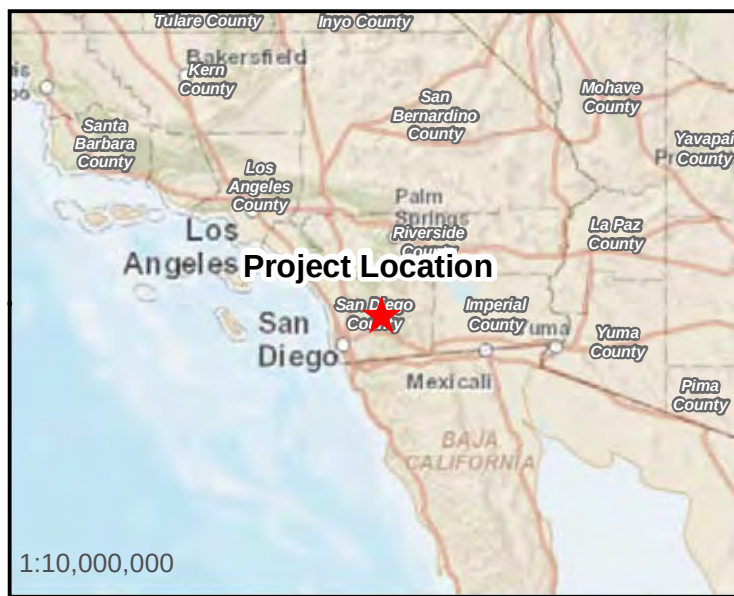
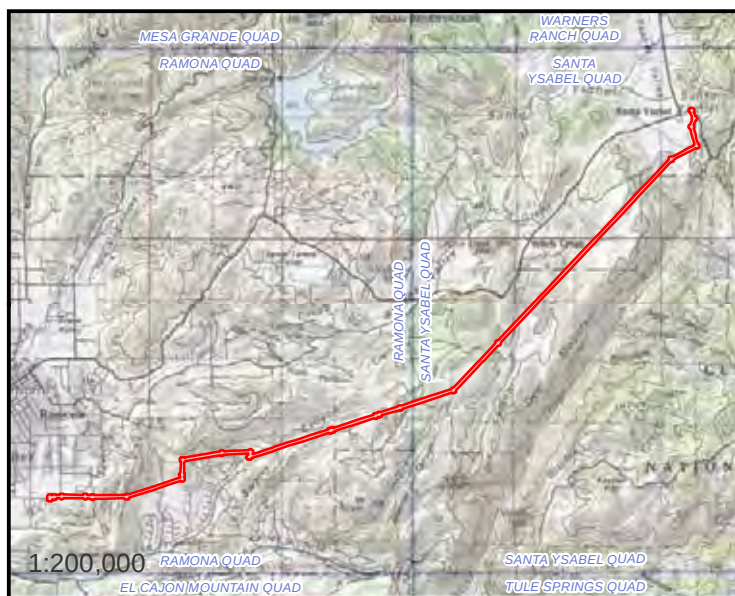
California Regional Water Quality Control Board, San Diego
Attn: 401 Water Quality Certification
9174 Sky Park Court, Suite 100
San Diego, CA 92123

APPENDIX B – FIGURES



APPENDIX B – FIGURE 1: TL 637 PROJECT LOCATION MAP





 Project Boundary

Figure 1

TL-637

Project Location Map

Version Date: 11/15/2012



APPENDIX B – FIGURE 2: TL 637 CNDDDB AND CRITICAL HABITATS MAP



CNDDDB Occurences November 2012

Animal Occurences

- American badger
- Coronado Island skink
- Dulzura pocket mouse
- San Diego fairy shrimp
- Townsend's big-eared bat
- Yuma myotis
- arroyo toad
- big free-tailed bat
- coast horned lizard
- coastal California gnatcatcher
- coastal whiptail
- hoary bat
- long-eared myotis
- orangethroat whiptail
- pallid bat
- pocketed free-tailed bat
- purple martin
- rosy boa
- silver-haired bat
- southern California rufous-crowned sparrow
- western mastiff bat
- western red bat
- western small-footed myotis
- western yellow bat
- white-tailed kite

Plant Occurences

- velvety false lupine
- spreading navarretia
- southern mountains skullcap
- purple stemodia
- long-spined spineflower
- felt-leaved monardella
- delicate clarkia
- San Diego thorn-mint
- San Diego milk-vetch
- San Diego gumplant
- San Diego button-celery
- San Bernardino aster
- Ramona horkelia
- Parry's tetracoccus
- Palmer's goldenbush
- Orcutt's brodiaea

Figure 2

TL-637

CNDDDB and Critical Habitats Map

Overview

Version Date: 1/10/2013

Map Page Index

Poles

Access

One-Mile Centerline Buffer

Three-Mile Centerline Buffer

FWS Critical Habitat

- arroyo (=arroyo southwestern) toad
- coastal California gnatcatcher
- San Diego fairy shrimp

N

SCALE=1:85,000

0 2,450 4,900 9,800

Feet



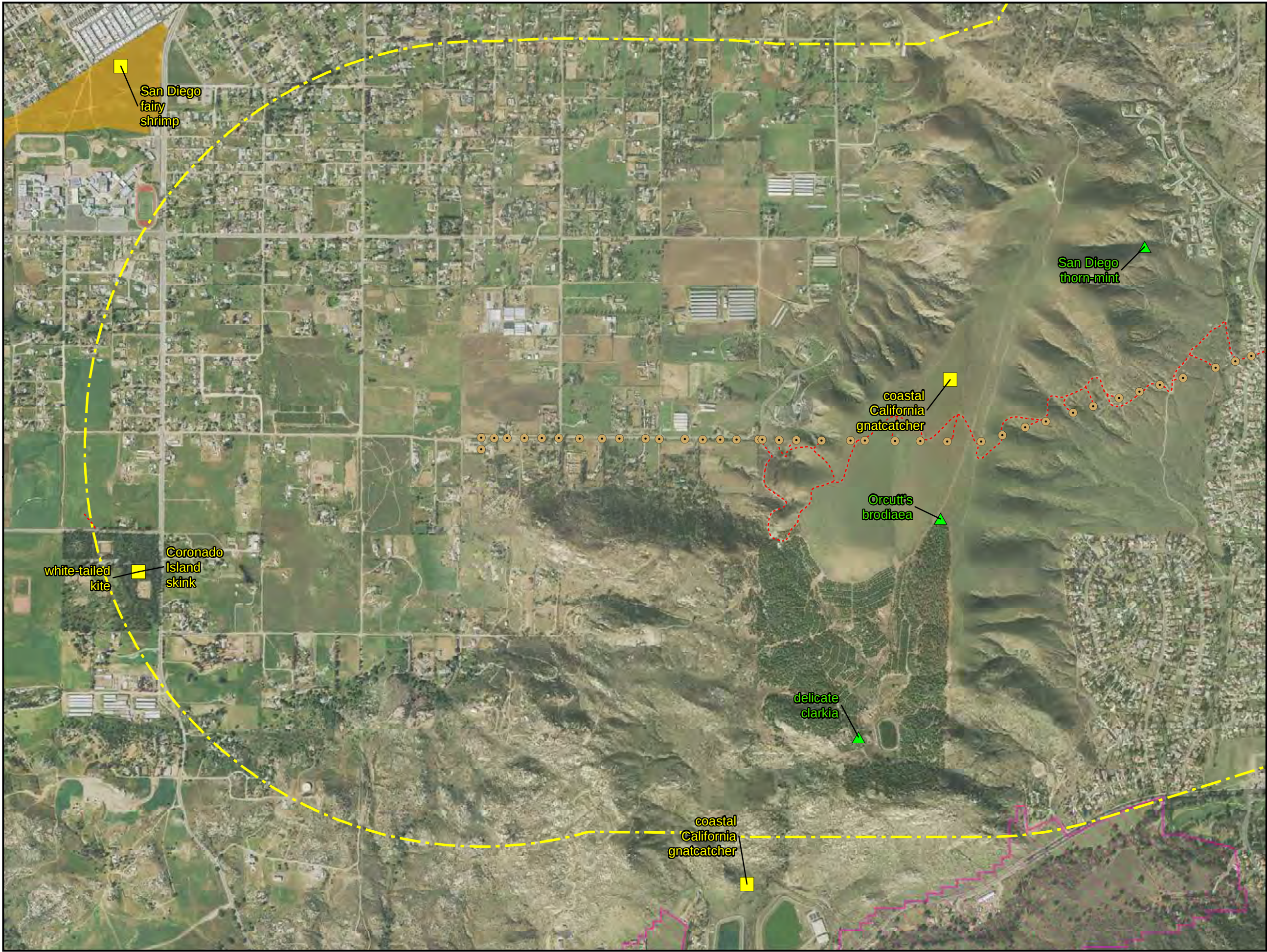
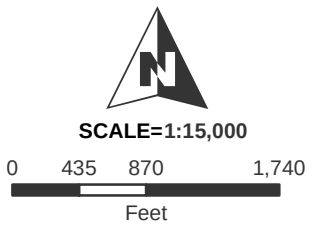


Figure 2
TL-637
CNDDDB and Critical Habitats Map

Page 1 of 6 Version Date: 1/10/2013

- Poles
- Access
- One-Mile Centerline Buffer
- Three-Mile Centerline Buffer
- Plant Occurrences
- Animal Occurrences
- FWS Critical Habitat**
 - arroyo (=arroyo southwestern) toad
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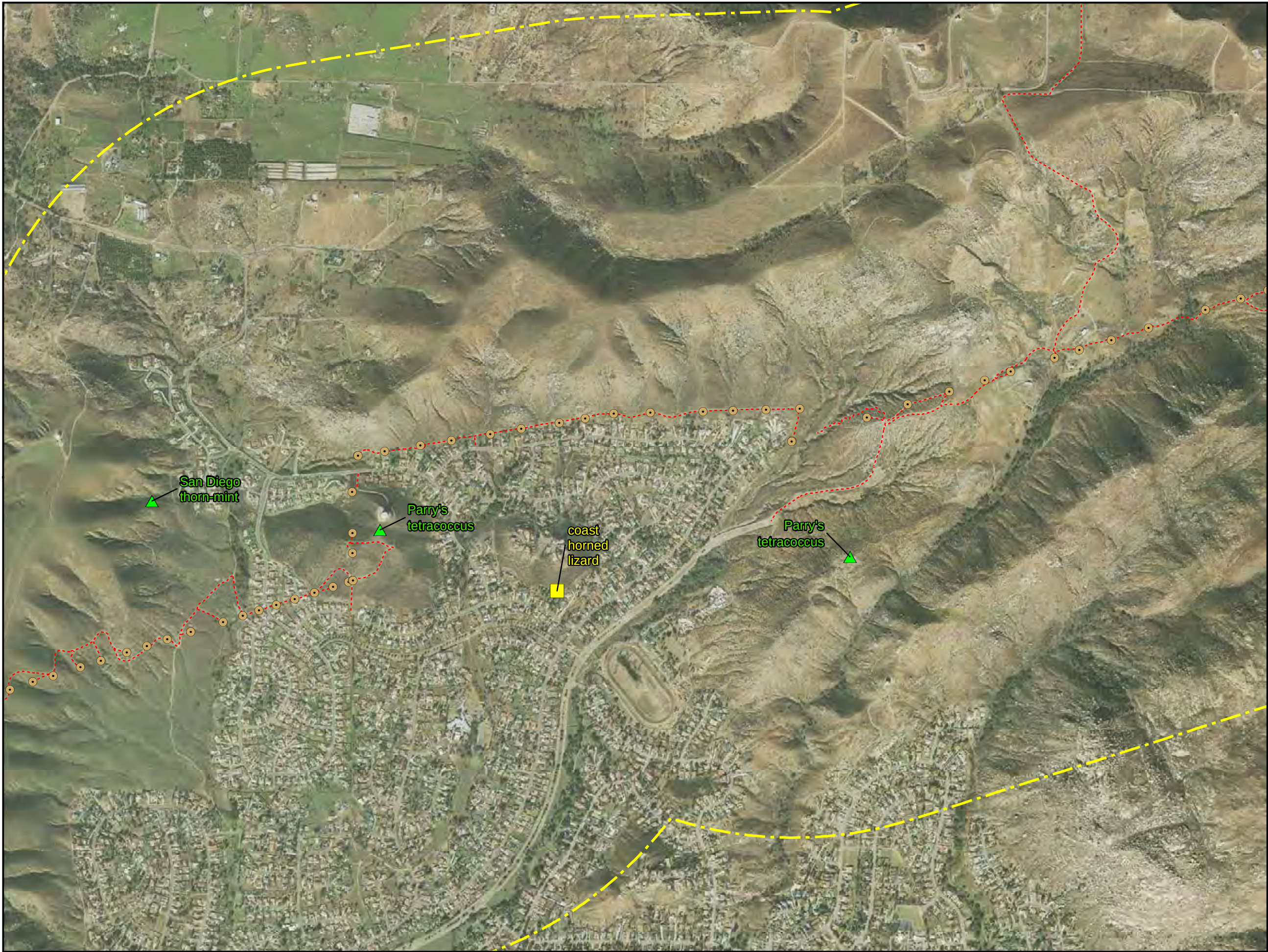
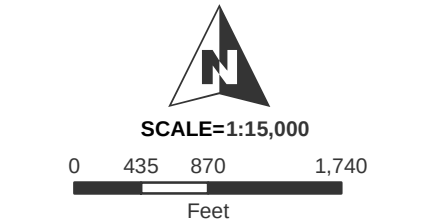


Figure 2
TL-637
CNDDDB and Critical Habitats Map

Page 2 of 6 Version Date: 1/10/2013

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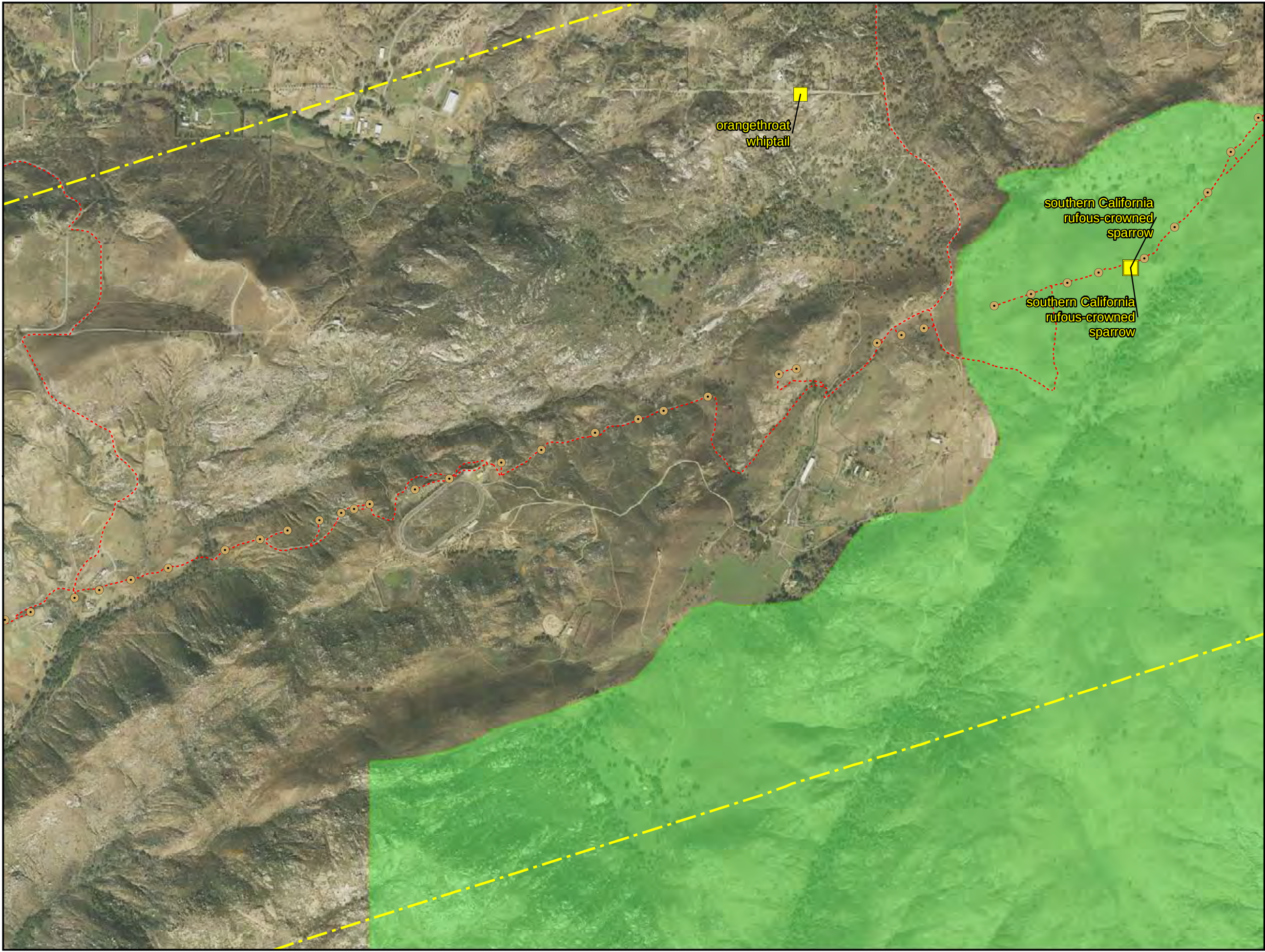
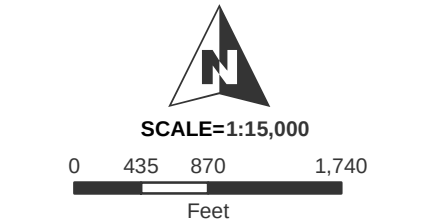


Figure 2
TL-637
CNDDDB and Critical Habitats Map

Page 3 of 6 Version Date: 1/10/2013

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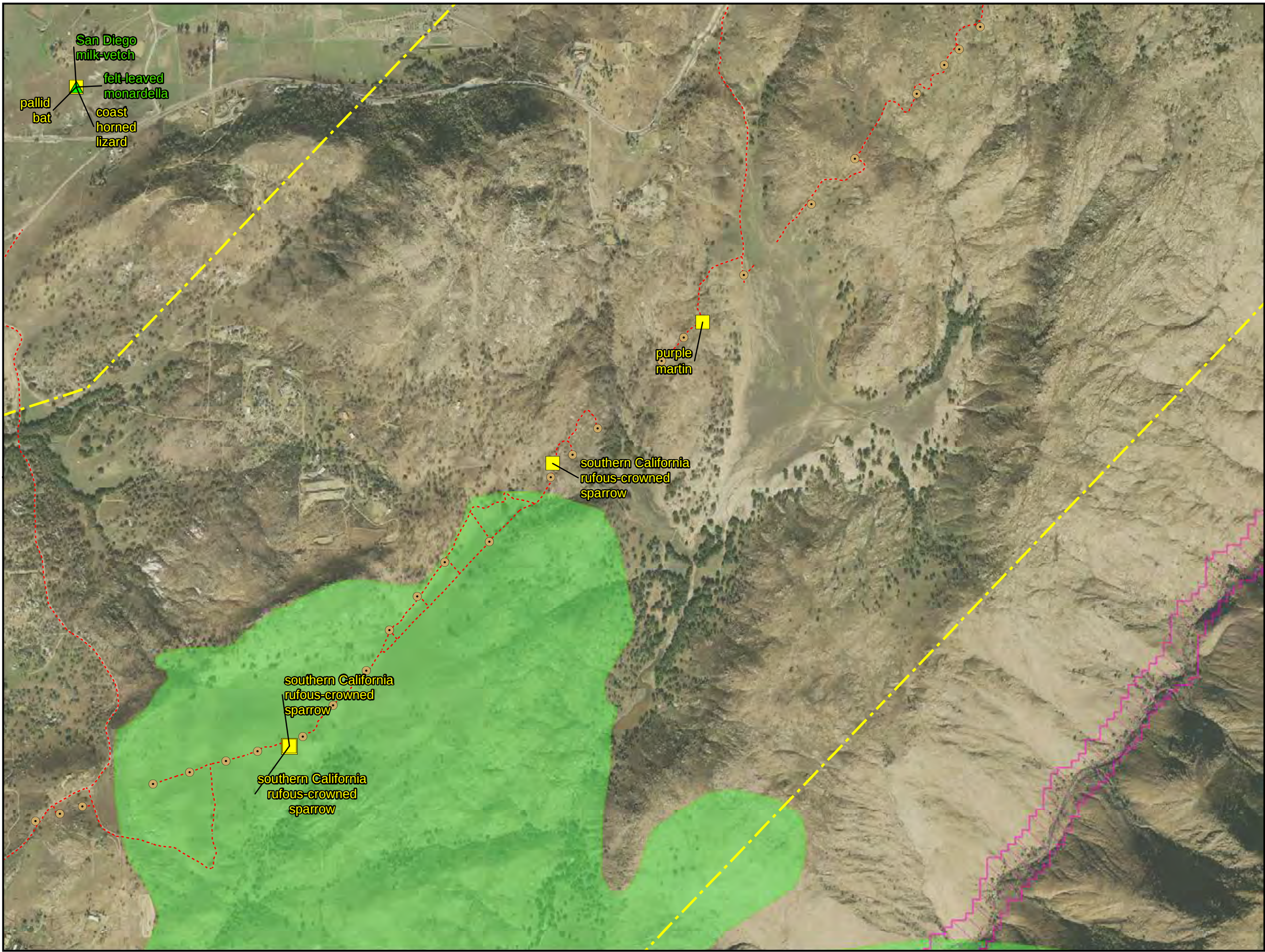


Figure 2
TL-637
CNDDDB and Critical Habitats Map

Page 4 of 6 Version Date: 1/10/2013

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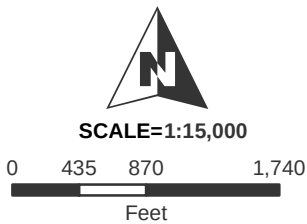




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TL-637

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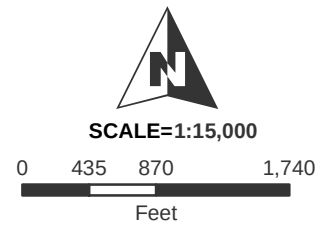
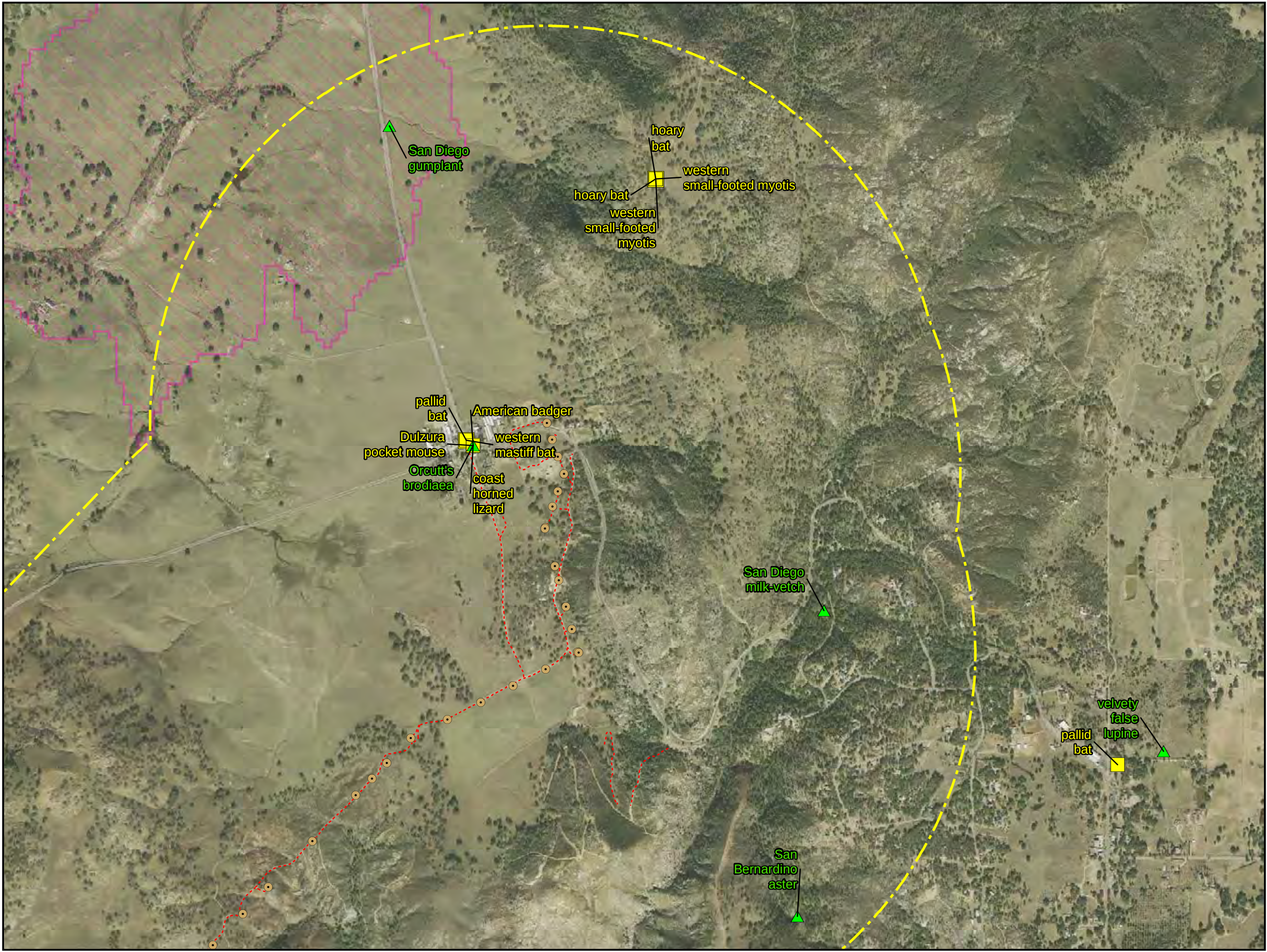
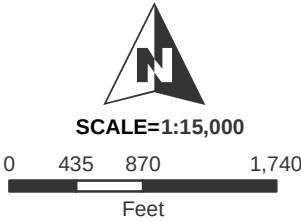


Figure 2
TL-637
CNDDDB and Critical Habitats Map

Page 6 of 6 Version Date: 1/10/2013



- Poles
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**APPENDIX B – FIGURE 3: TL 637 CRITICAL HABITATS, PRESERVE AREAS, AND
SENSITIVE SPECIES MAP**

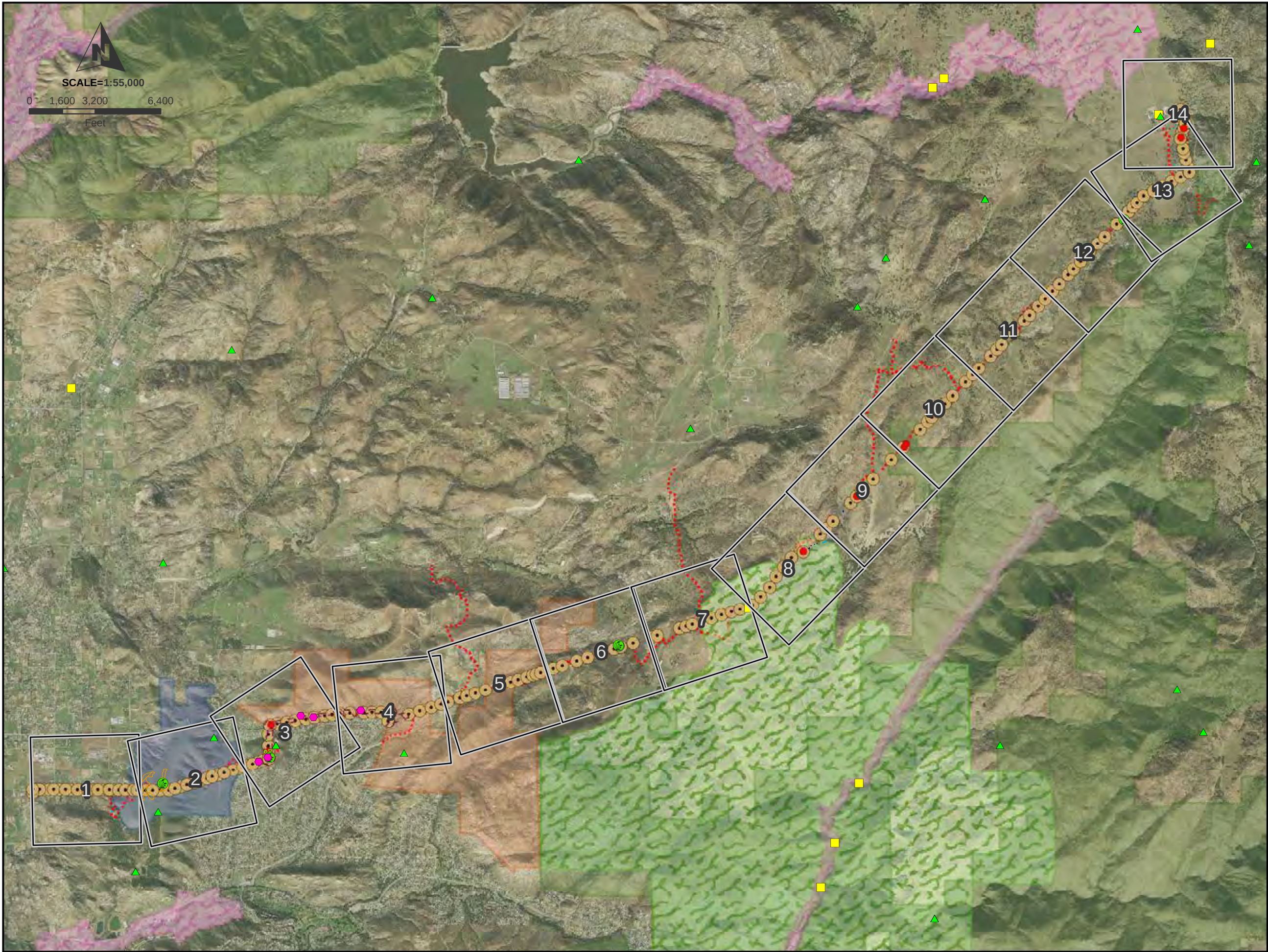


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Overview Version Date: 1/10/2013

Map Page Index

TL - 637

- Poles
- Access

California Gnatcatcher Survey

- California Gnatcatcher Pairs
- California Gnatcatcher Survey Area

Focus Plant Survey

- Rare Plants
- Astragalus oocarpus
- Brodiaea ocuttii
- Symphyotrichum defoliatum
- Clarkia delicata
- Tetracoccus dioicus

Sensitive Observed Species

- Observed Wildlife

CNDDDB Occurences

- Animal Occurences
- Plant Occurences

FWS Critical Habitat

- arroyo (=arroyo southwestern) toad
- coastal California gnatcatcher
- San Diego fairy shrimp

Preserve Areas

- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve





Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 1 of 14 Version Date: 1/15/2013

TL - 637

- Poles
- Access
- Survey Area
- Guard Structure
- Staging Yards
- String Sites

California Gnatcatcher Survey

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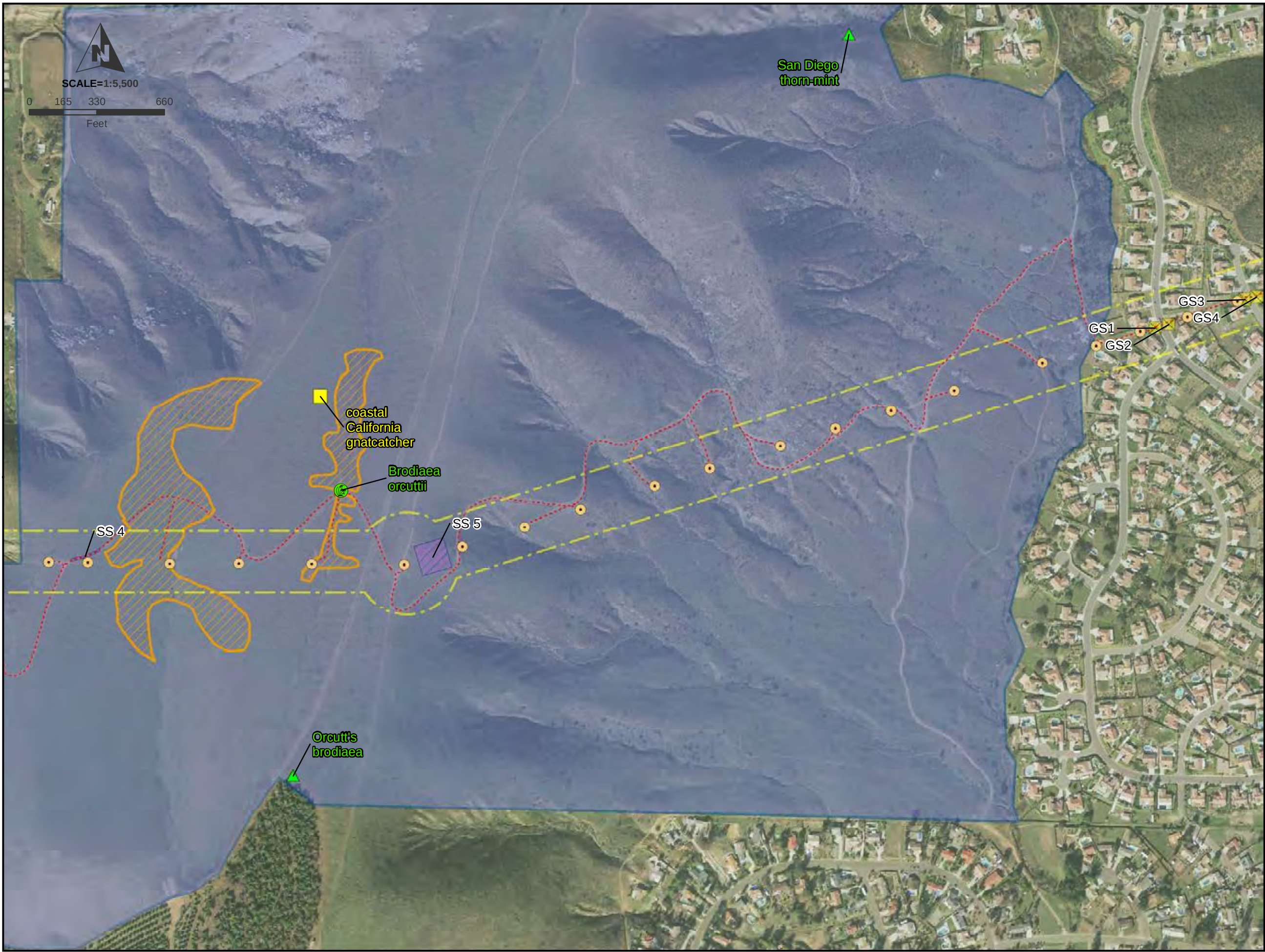


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 2 of 14 Version Date: 1/15/2013

TL - 637

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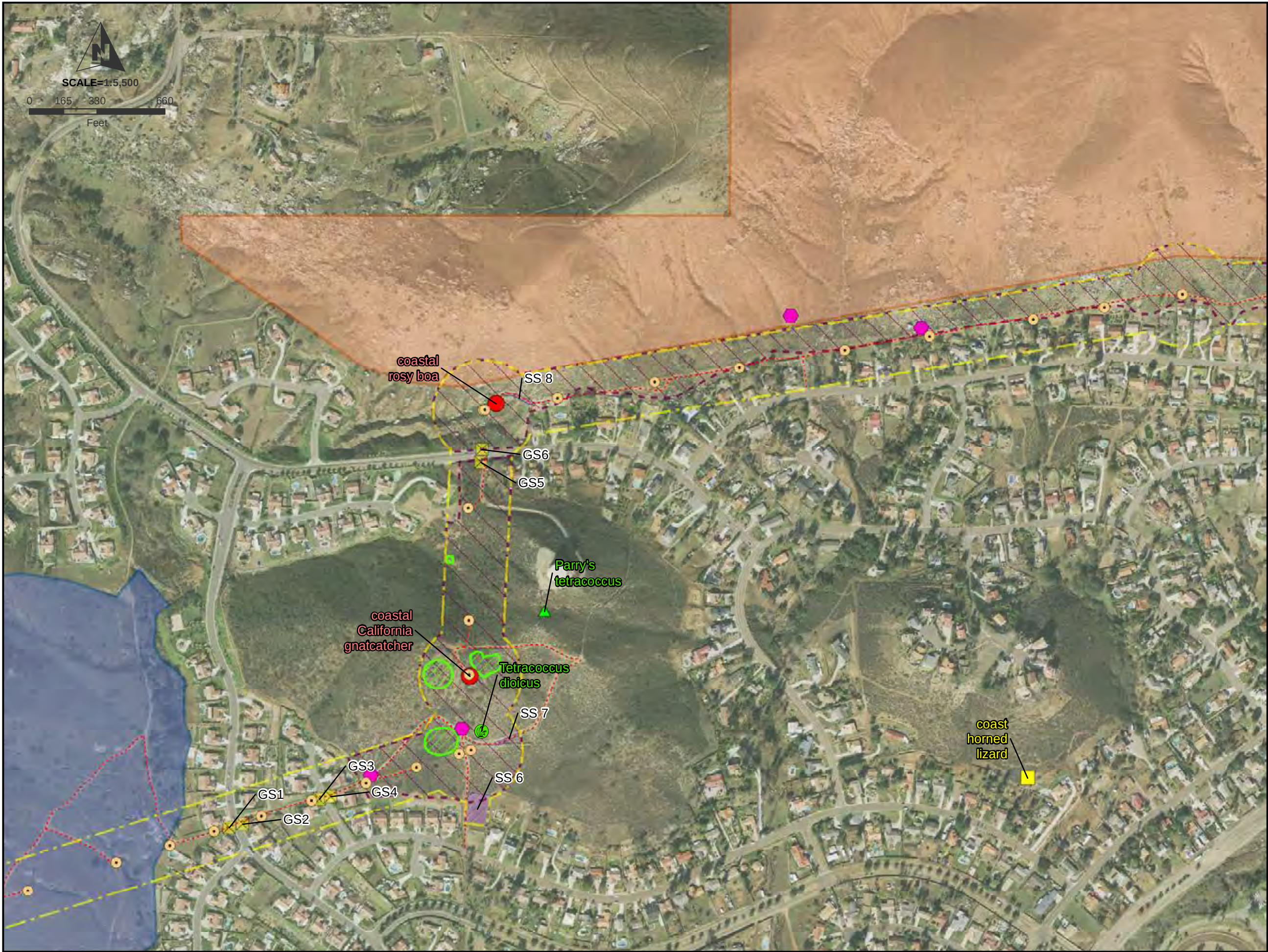


Figure 3
TL-637

Critical Habitats, Preserve Areas,
and Sensitive Species Map

Page 3 of 14 Version Date: 1/15/2013

TL - 637

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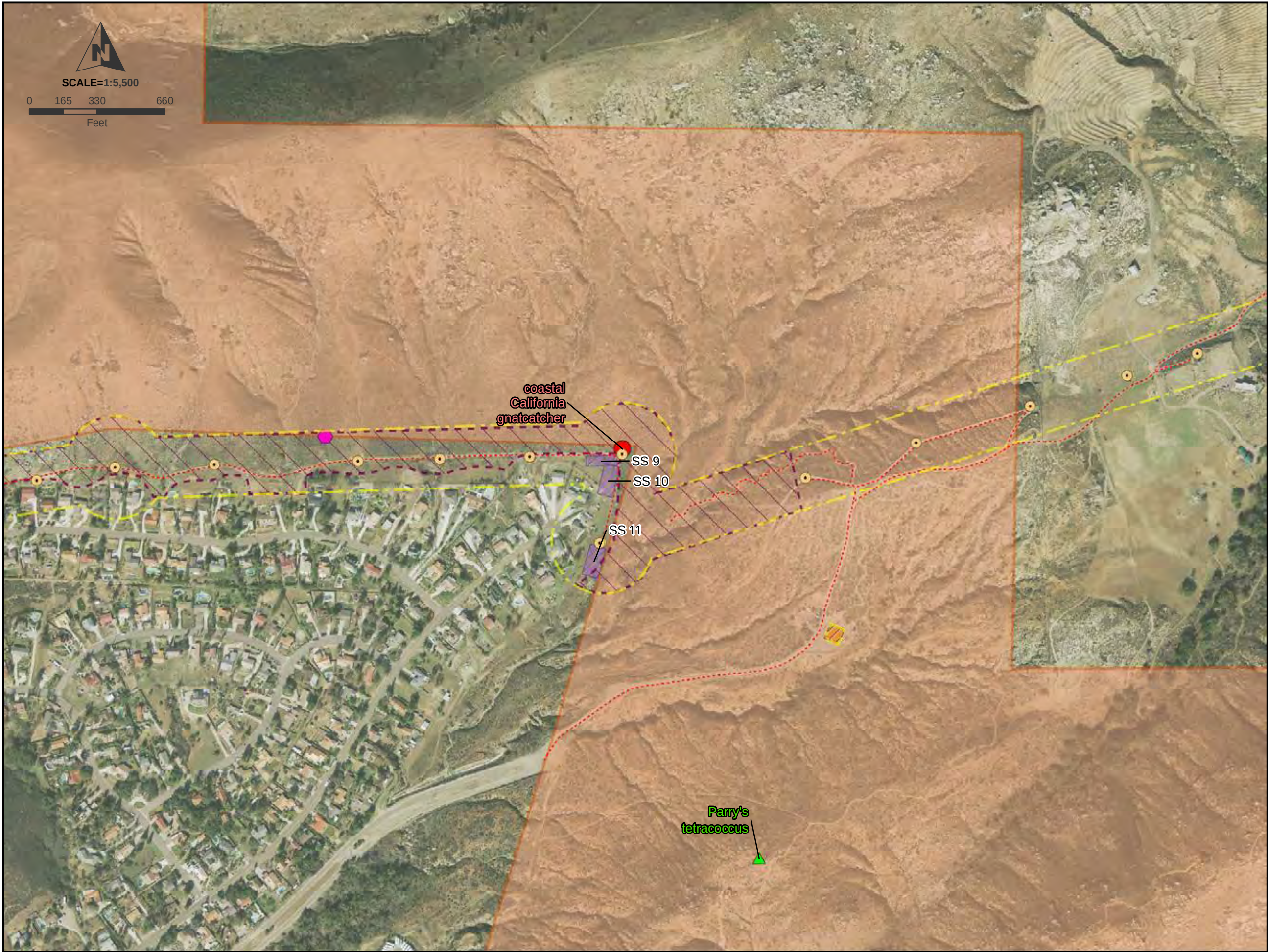


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
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Page 4 of 14 Version Date: 1/15/2013

TL - 637

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Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 5 of 14 Version Date: 1/15/2013

TL - 637

- | | |
|-------------|-----------------|
| Poles | Guard Structure |
| Access | Staging Yards |
| Survey Area | String Sites |

California Gnatcatcher Survey

- | |
|------------------------------------|
| California Gnatcatcher Pairs |
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Focus Plant Survey

- | |
|---------------------------|
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- | |
|-------------------|
| Observed Wildlife |
|-------------------|

CNDDDB Occurences

- | |
|-------------------|
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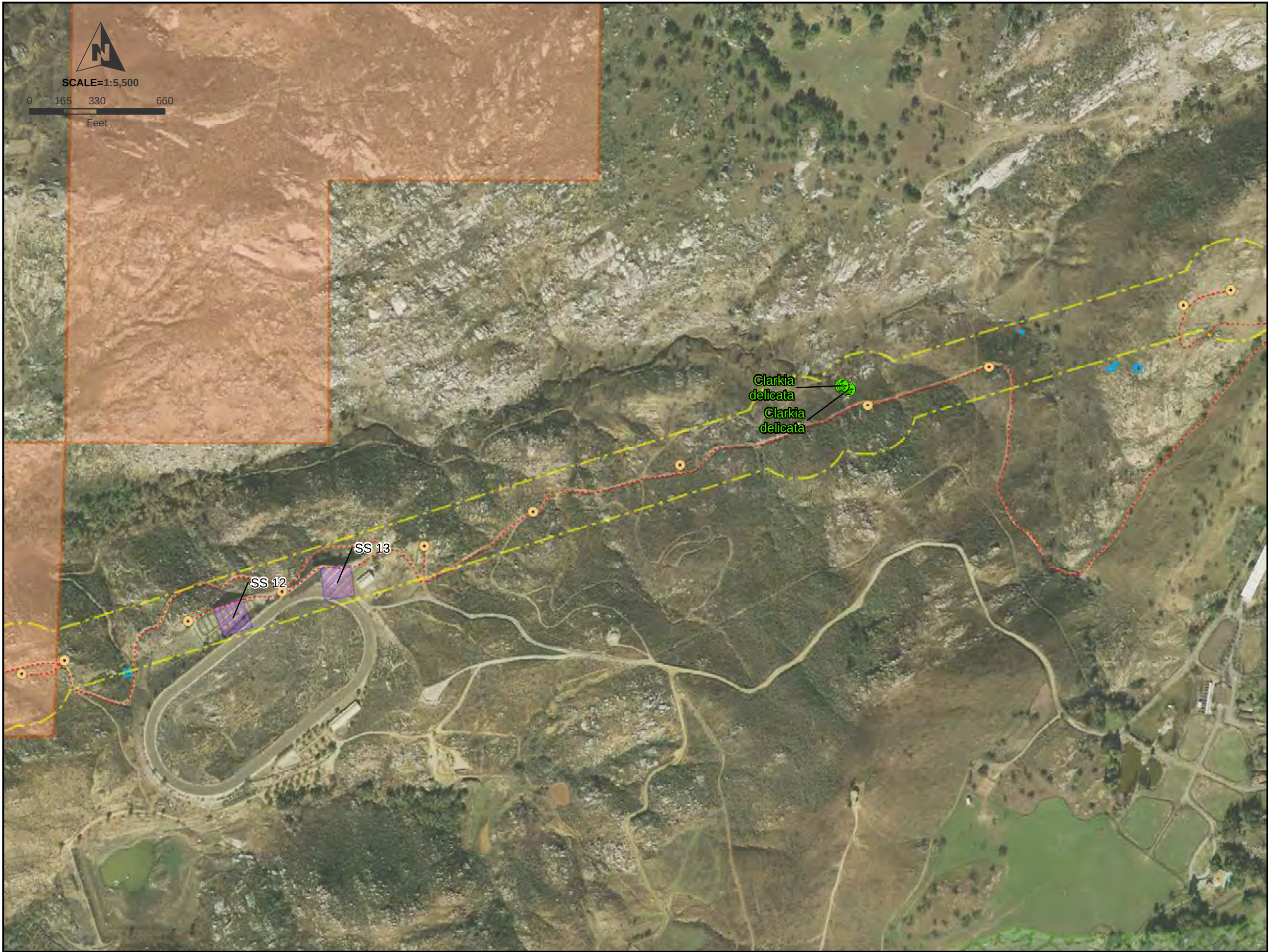


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 6 of 14 Version Date: 1/15/2013

TL - 637

- | | |
|-------------|-----------------|
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Figure 3
TL-637

**Critical Habitats, Preserve Areas,
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Page 7 of 14 Version Date: 1/15/2013

TL - 637

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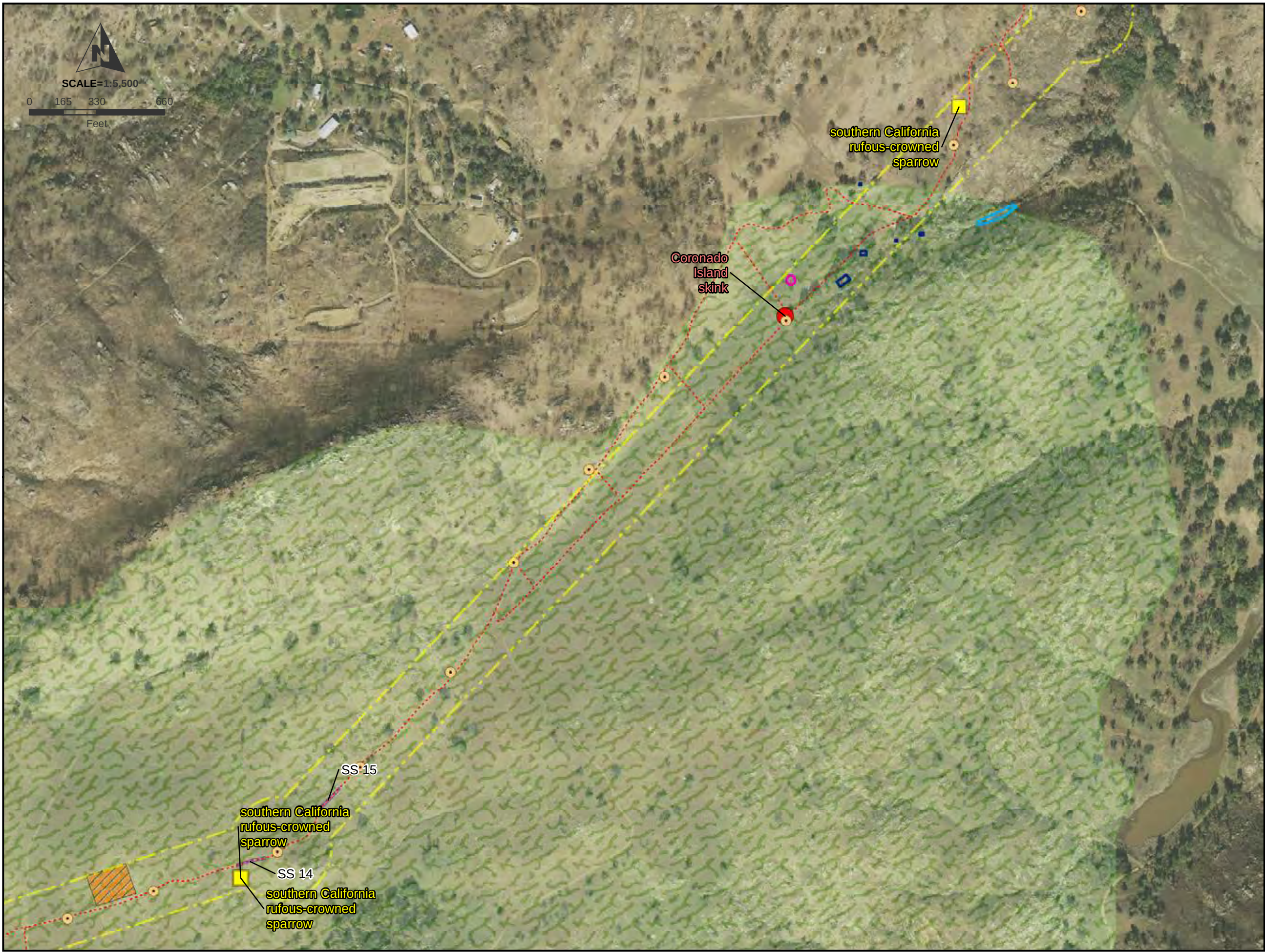


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TL-637

Critical Habitats, Preserve Areas,
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Page 8 of 14 Version Date: 1/15/2013

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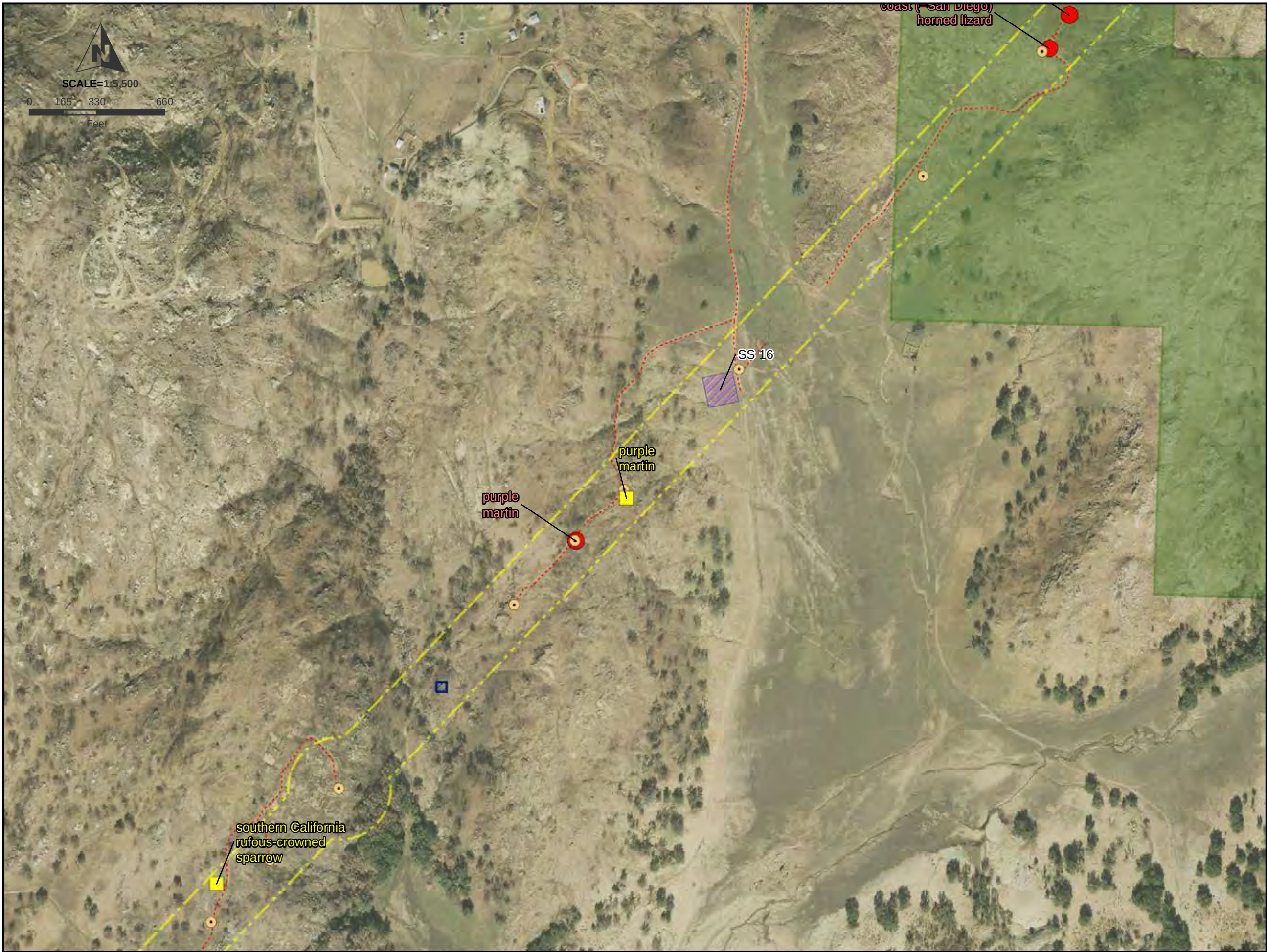


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
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Page 9 of 14 Version Date: 1/15/2013

TL - 637

- | | |
|-------------|-----------------|
| Poles | Guard Structure |
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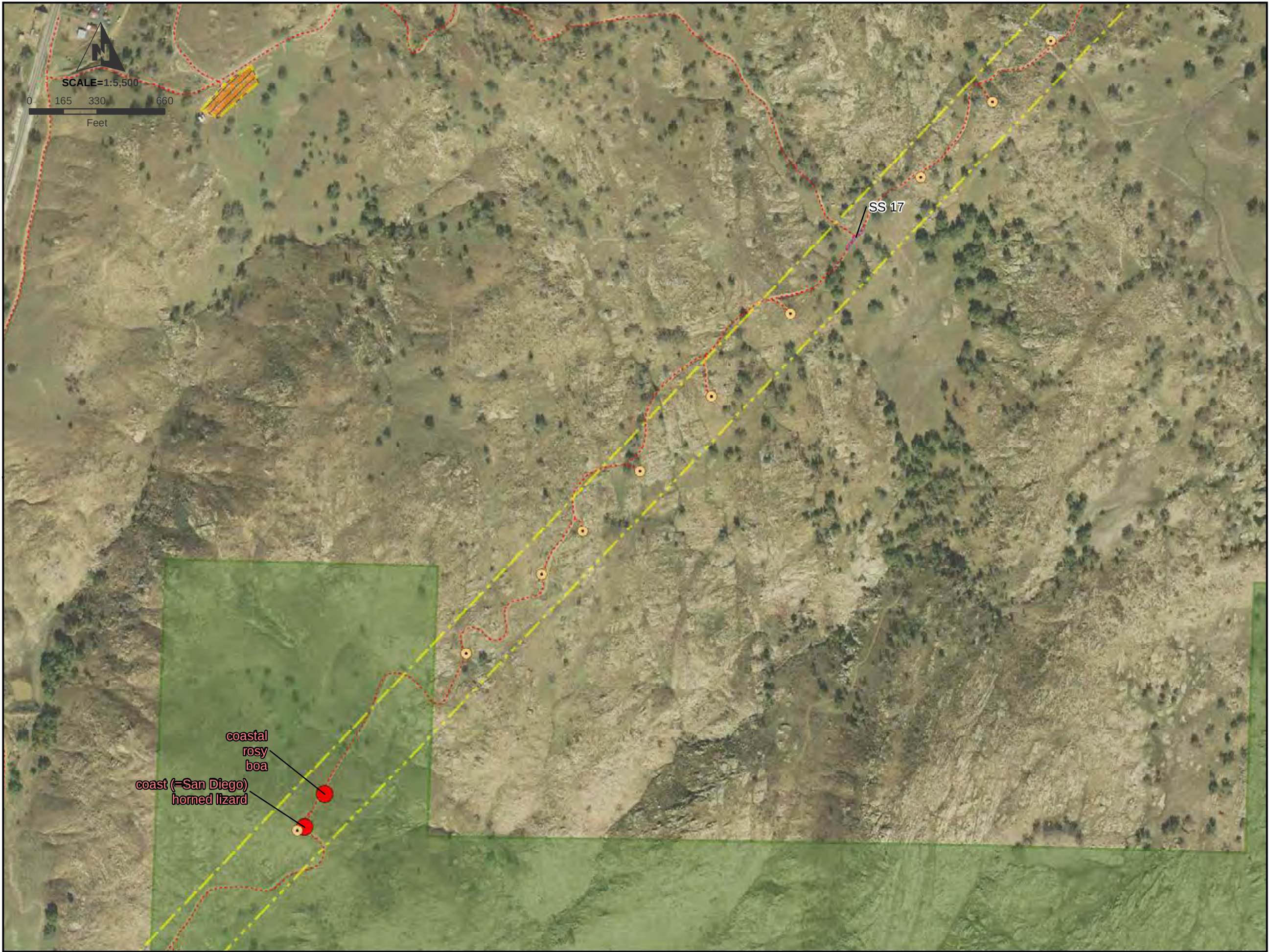


Figure 3
TL-637

Critical Habitats, Preserve Areas,
and Sensitive Species Map

Page 10 of 14 Version Date: 1/15/2013

TL - 637

- Poles
- Access
- Survey Area
- Guard Structure
- Staging Yards
- String Sites

California Gnatcatcher Survey

- California Gnatcatcher Pairs
- California Gnatcatcher Survey Area

Focus Plant Survey

- Rare Plants
- Astragalus oocarpus
- Brodiaea orcuttii
- Clarkia delicata
- Symphyotrichum defoliatum
- Tetracoccus dioicus

Sensitive Observed Species

- Observed Wildlife

CNDDDB Occurences

- Animal Occurences
- Plant Occurences

FWS Critical Habitat

- arroyo (=arroyo southwestern) toad
- coastal California gnatcatcher
- San Diego fairy shrimp

Preserve Areas

- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve





SCALE=1:5,500

0 165 330 660

Feet

Figure 3

TL-637

Critical Habitats, Preserve Areas,
and Sensitive Species Map

Page 11 of 14

Version Date: 1/15/2013

TL - 637

- Poles
- Access
- Survey Area
- Guard Structure
- Staging Yards
- String Sites

California Gnatcatcher Survey

- California Gnatcatcher Pairs
- California Gnatcatcher Survey Area

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- Clarkia delicata
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- Tetracoccus dioicus

Sensitive Observed Species

- Observed Wildlife

CNDDDB Occurences

- Animal Occurences
- Plant Occurences

FWS Critical Habitat

- arroyo (=arroyo southwestern) toad
- coastal California gnatcatcher
- San Diego fairy shrimp

Preserve Areas

- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve





Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 12 of 14 Version Date: 1/15/2013

TL - 637

- | | |
|-------------|-----------------|
| Poles | Guard Structure |
| Access | Staging Yards |
| Survey Area | String Sites |

California Gnatcatcher Survey

- | |
|------------------------------------|
| California Gnatcatcher Pairs |
| California Gnatcatcher Survey Area |

Focus Plant Survey

- | |
|---------------------------|
| Rare Plants |
| Astragalus oocarpus |
| Brodiaea orcuttii |
| Clarkia delicata |
| Symphyotrichum defoliatum |
| Tetracoccus dioicus |

Sensitive Observed Species

- | |
|-------------------|
| Observed Wildlife |
|-------------------|

CNDDB Occurences

- | |
|-------------------|
| Animal Occurences |
| Plant Occurences |

FWS Critical Habitat

- | |
|------------------------------------|
| arroyo (=arroyo southwestern) toad |
| coastal California gnatcatcher |
| San Diego fairy shrimp |

Preserve Areas

- | |
|---------------------------|
| Cleveland National Forest |
| Mt. Gower Preserve |
| Simon Preserve |



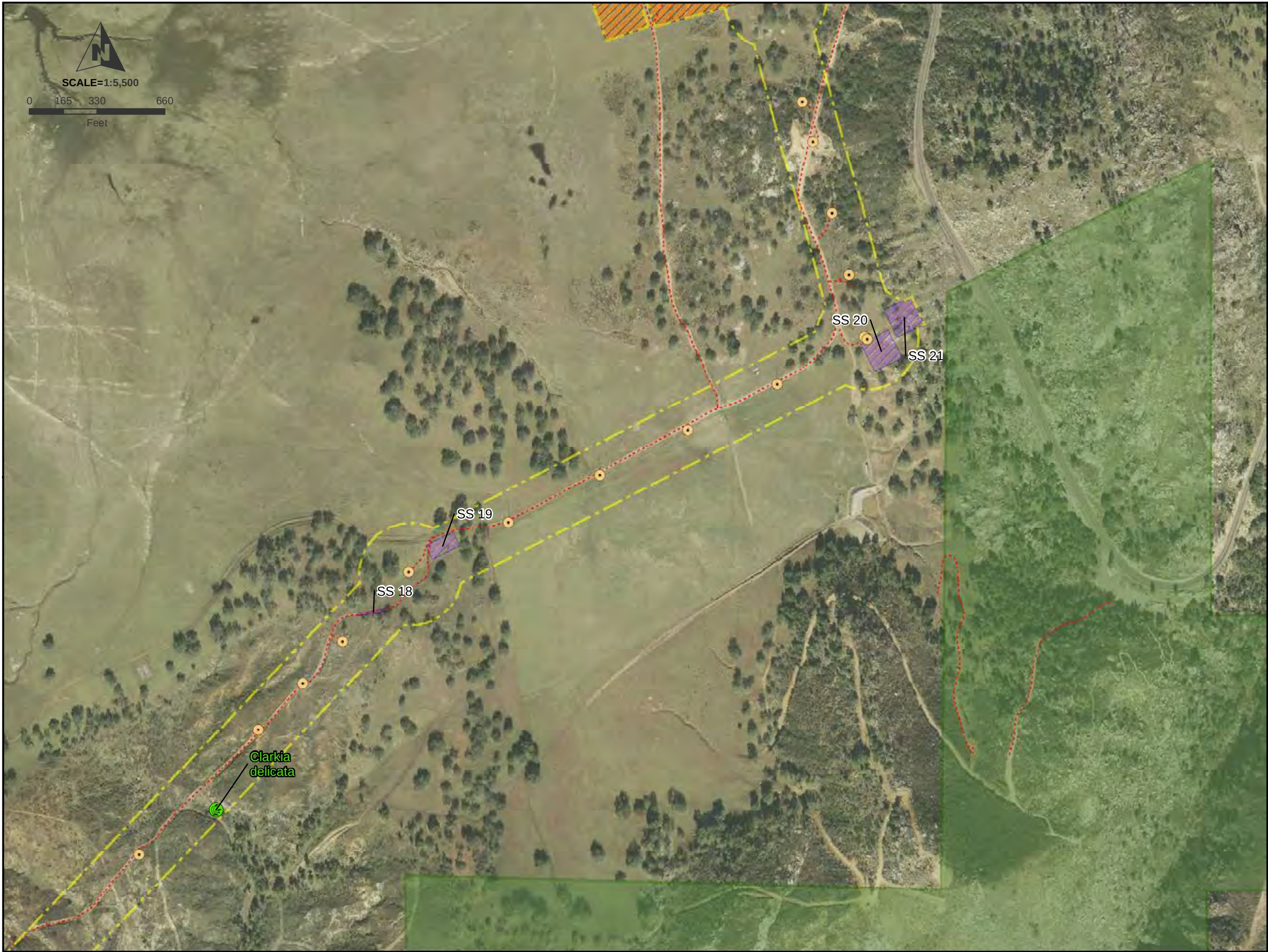
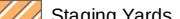


Figure 3
TL-637

**Critical Habitats, Preserve Areas,
and Sensitive Species Map**

Page 13 of 14 Version Date: 1/15/2013

TL - 637

-  Poles
-  Access
-  Survey Area
-  Guard Structure
-  Staging Yards
-  String Sites

California Gnatcatcher Survey

-  California Gnatcatcher Pairs
-  California Gnatcatcher Survey Area

Focus Plant Survey

-  Rare Plants
-  Astragalus oocarpus
-  Brodiaea orcuttii
-  Clarkia delicata
-  Symphyotrichum defoliatum
-  Tetracoccus dioicus

Sensitive Observed Species

-  Observed Wildlife

CNDDDB Occurrences

-  Animal Occurrences
-  Plant Occurrences

FWS Critical Habitat

-  arroyo (=arroyo southwestern) toad
-  coastal California gnatcatcher
-  San Diego fairy shrimp

Preserve Areas

-  Cleveland National Forest
-  Mt. Gower Preserve
-  Simon Preserve



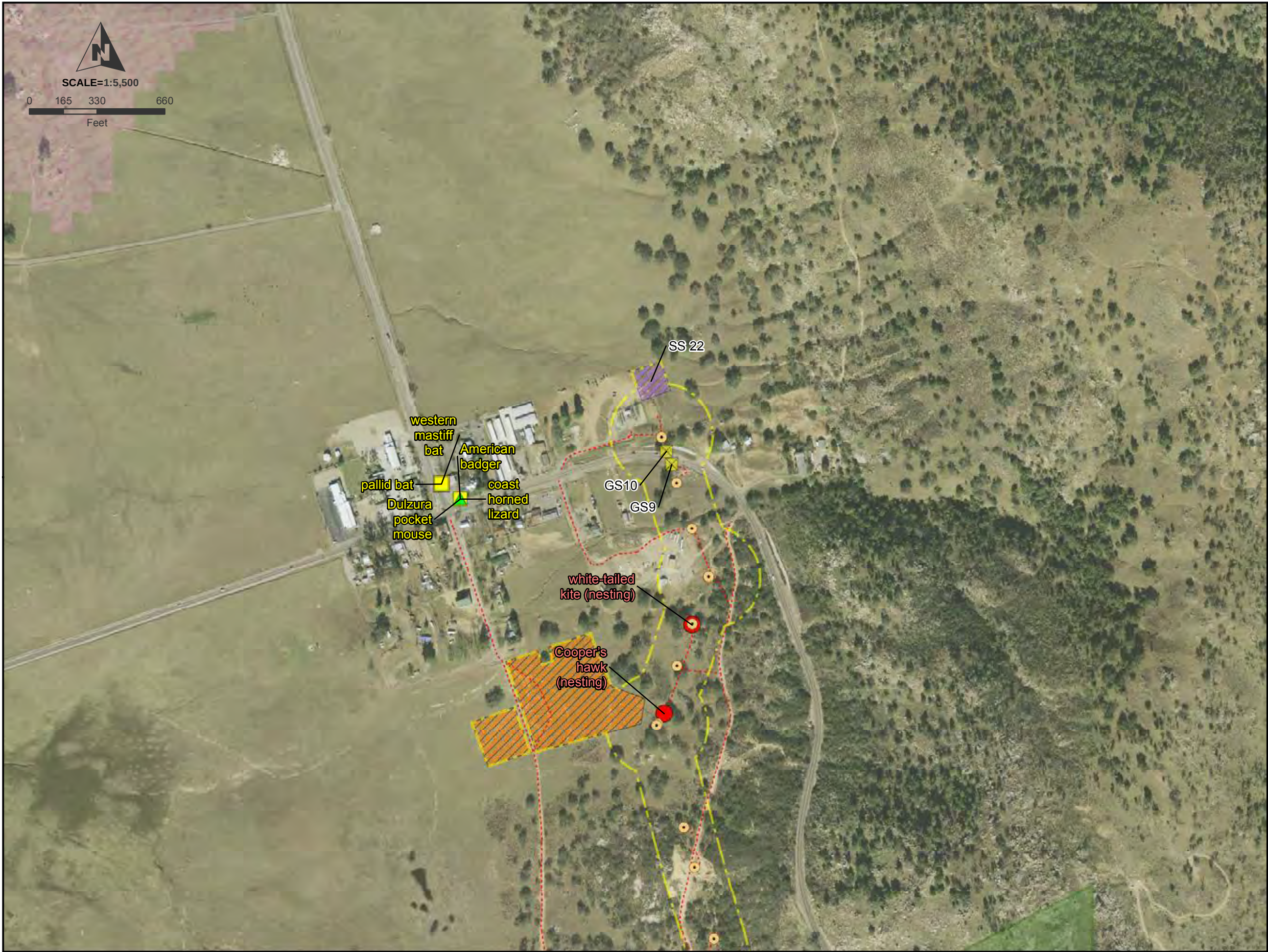


Figure 3
TL-637

Critical Habitats, Preserve Areas,
and Sensitive Species Map

Page 14 of 14 Version Date: 1/15/2013

TL - 637

- Poles
- Access
- Survey Area
- Guard Structure
- Staging Yards
- String Sites

California Gnatcatcher Survey

- California Gnatcatcher Pairs
- California Gnatcatcher Survey Area

Focus Plant Survey

- Rare Plants
- Astragalus oocarpus
- Brodiaea orcuttii
- Clarkia delicata
- Symphyotrichum defoliatum
- Tetracoccus dioicus

Sensitive Observed Species

- Observed Wildlife

CNDDDB Occurrences

- Animal Occurrences
- Plant Occurrences

FWS Critical Habitat

- arroyo (=arroyo southwestern) toad
- coastal California gnatcatcher
- San Diego fairy shrimp

Preserve Areas

- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve



APPENDIX B – FIGURE 4: TL 637 VEGETATION COMMUNITIES MAP



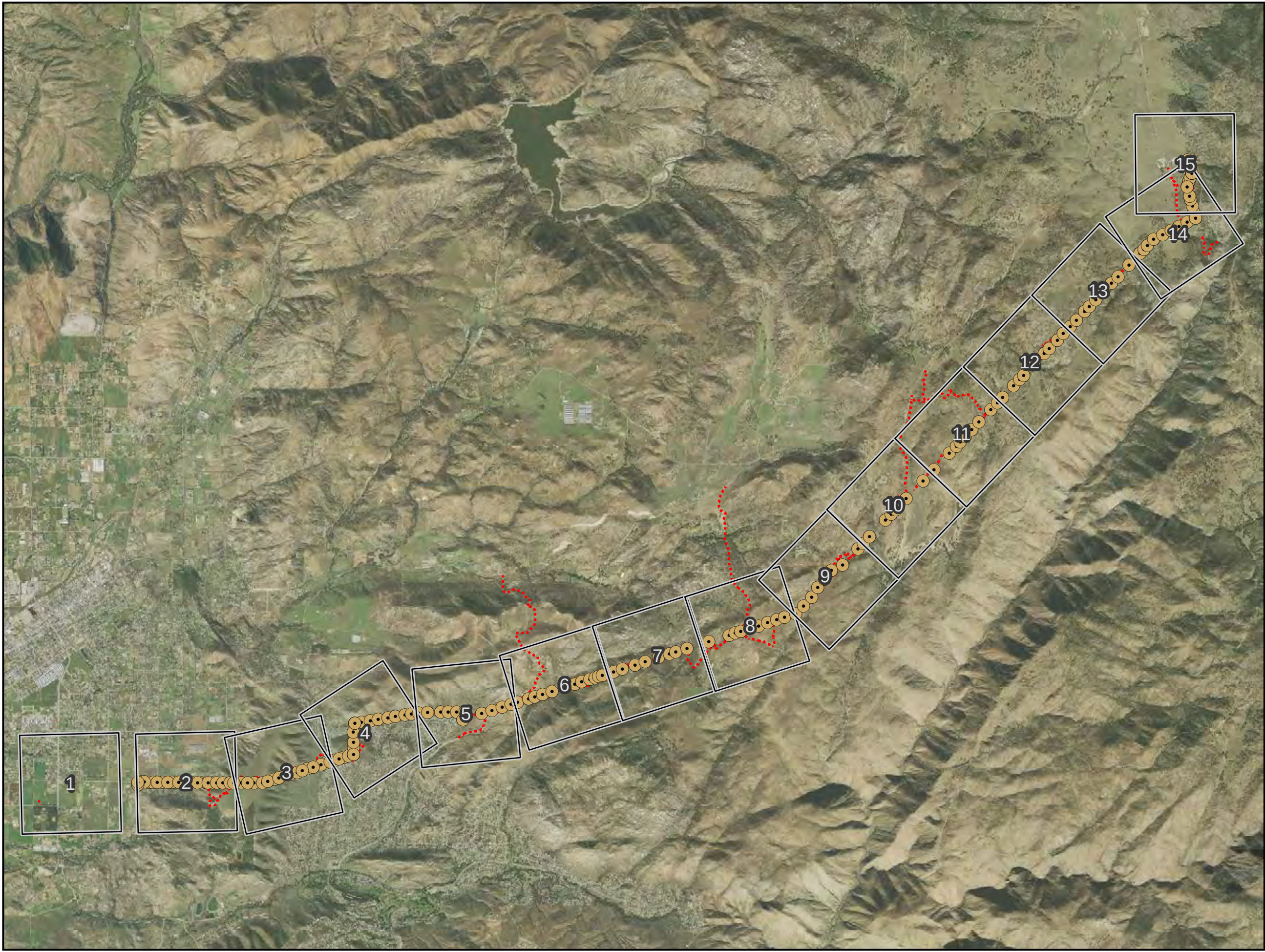
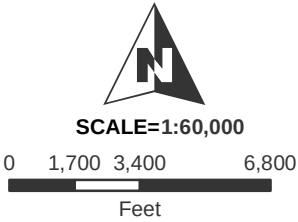


Figure 4
TL-637

Vegetation Communities Map

Overview Version Date: 1/17/2013

- Map Page Index
- Access
- Poles



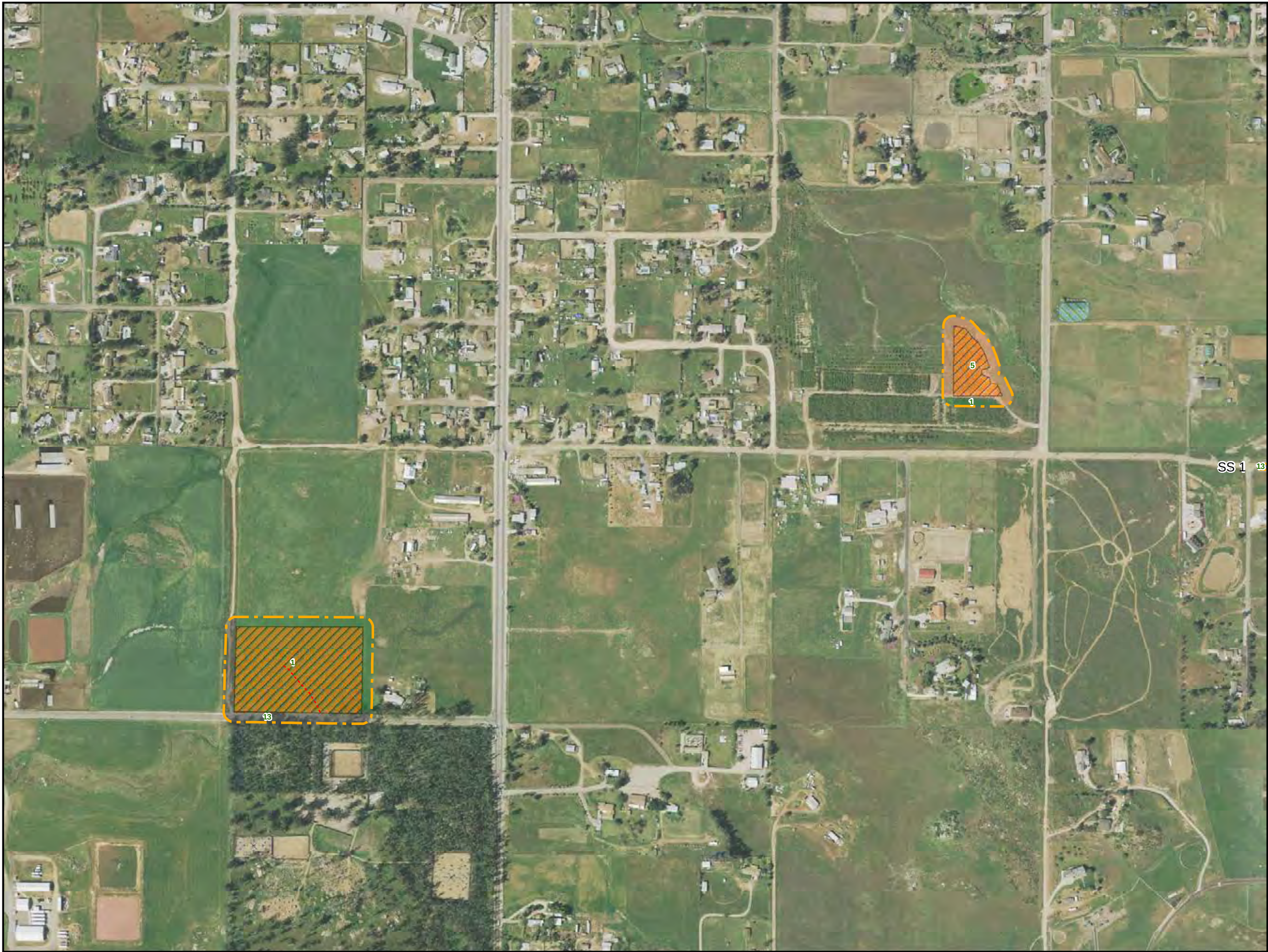


Figure 4
TL-637

Vegetation Communities Map

Page 1 of 15 Version Date: 1/21/2013

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

- 1. Agriculture
- 2. Chaparral
- 3. Diegan Coastal Sage Scrub
- 4. Disturbed Wetland
- 5. Disturbed
- 6. Freshwater Seep/Open Water
- 7. Grassland
- 8. Mixed Oak Woodland
- 9. Oak Savanna
- 10. Southern Mixed Chaparral
- 11. Southern Mixed Chaparral/Coastal Sage Scrub
- 12. Southern Riparian Forest
- 13. Urban and Developed/Ornamental Landscaping

Rare Plants

- Rare Plant Points
- Astragalus oocarpus
- Brodiaea orcuttii
- Clarkia delicata
- Symphyotrichum defoliatum
- Tetracoccus dioicus



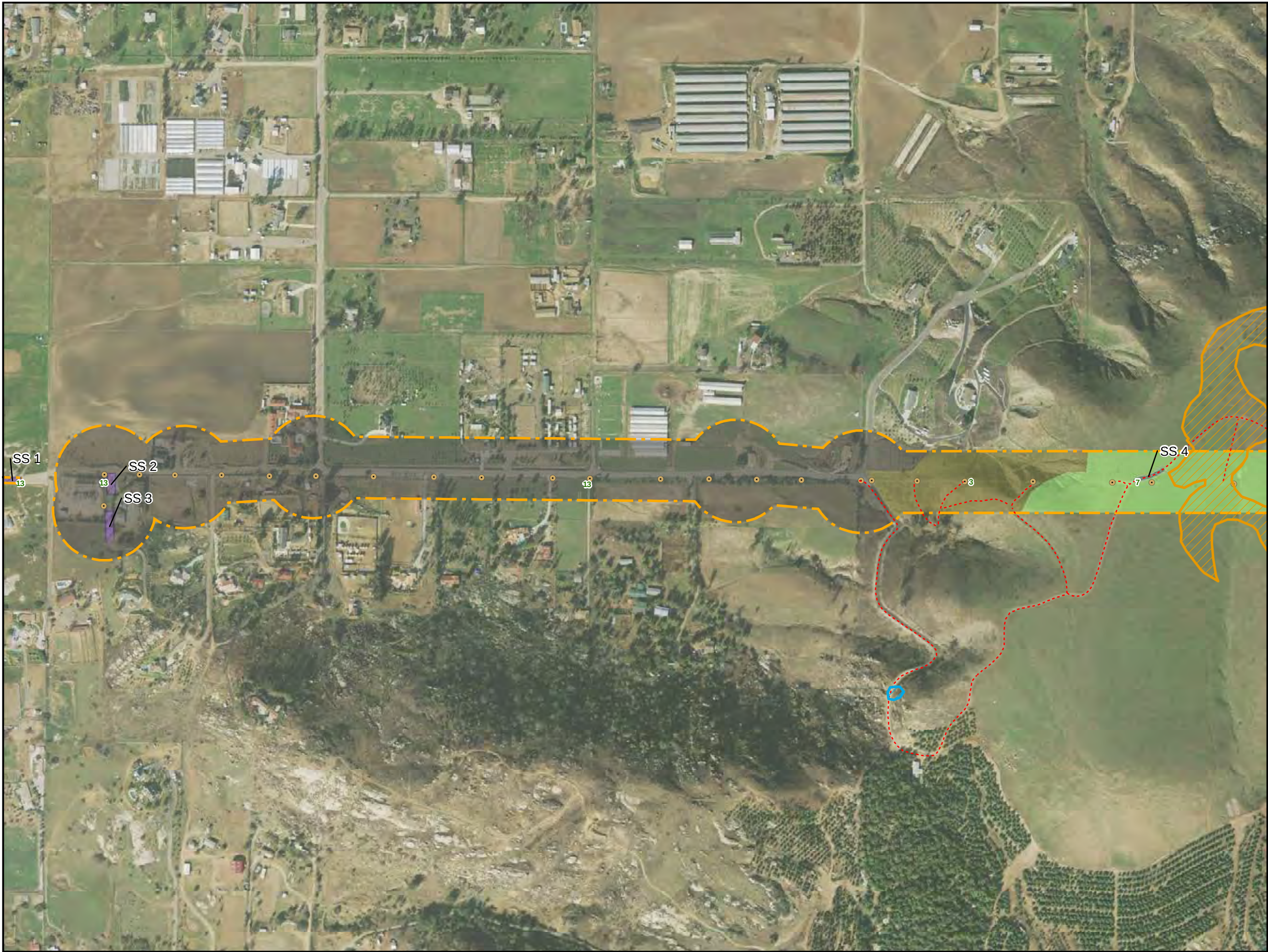


Figure 4
TL-637

Vegetation Communities Map

Page 2 of 15 Version Date: 1/21/2013

- Poles
 - Access
 - Staging Yards
 - String Sites
 - Survey Area
 - Guard Structure
- FWS National Wetland Inventory**
- Wetlands
- Vegetation Community**
- 1. Agriculture
 - 2. Chaparral
 - 3. Diegan Coastal Sage Scrub
 - 4. Disturbed Wetland
 - 5. Disturbed
 - 6. Freshwater Seep/Open Water
 - 7. Grassland
 - 8. Mixed Oak Woodland
 - 9. Oak Savanna
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 - 11. Southern Mixed Chaparral/Coastal Sage Scrub
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- Rare Plants**
- Rare Plant Points
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 - Brodiaea orcuttii
 - Clarkia delicata
 - Symphyotrichum defoliatum
 - Tetracoccus dioicus



Figure 4
TL-637

Vegetation Communities Map

Page 3 of 15 Version Date: 1/21/2013



Legend

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

- 1. Agriculture
- 2. Chaparral
- 3. Diegan Coastal Sage Scrub
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Rare Plants

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- Brodiaea orcuttii
- Clarkia delicata
- Symphyotrichum defoliatum
- Tetracoccus dioicus



Vegetation Communities Map

Version Date: 1/21/2013

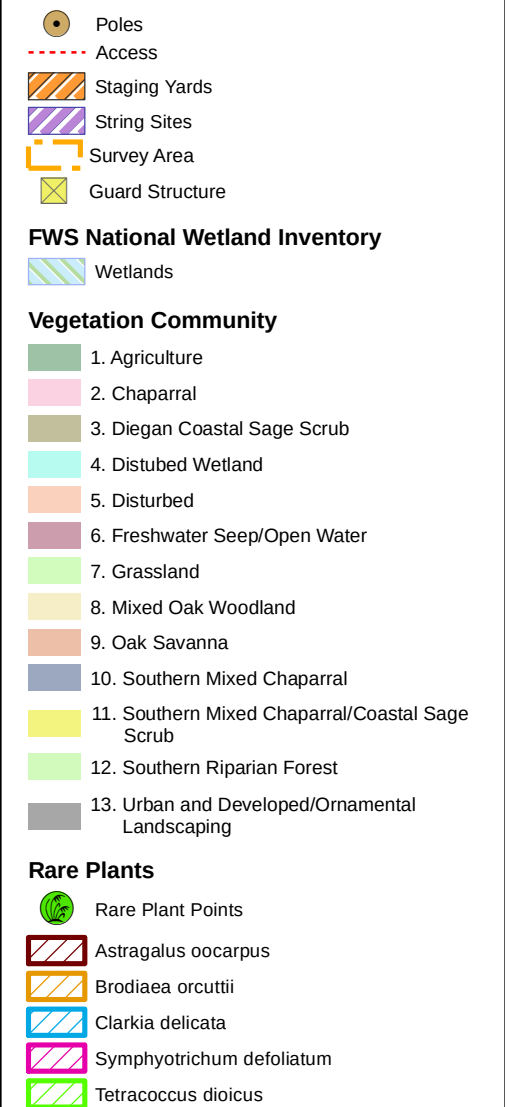
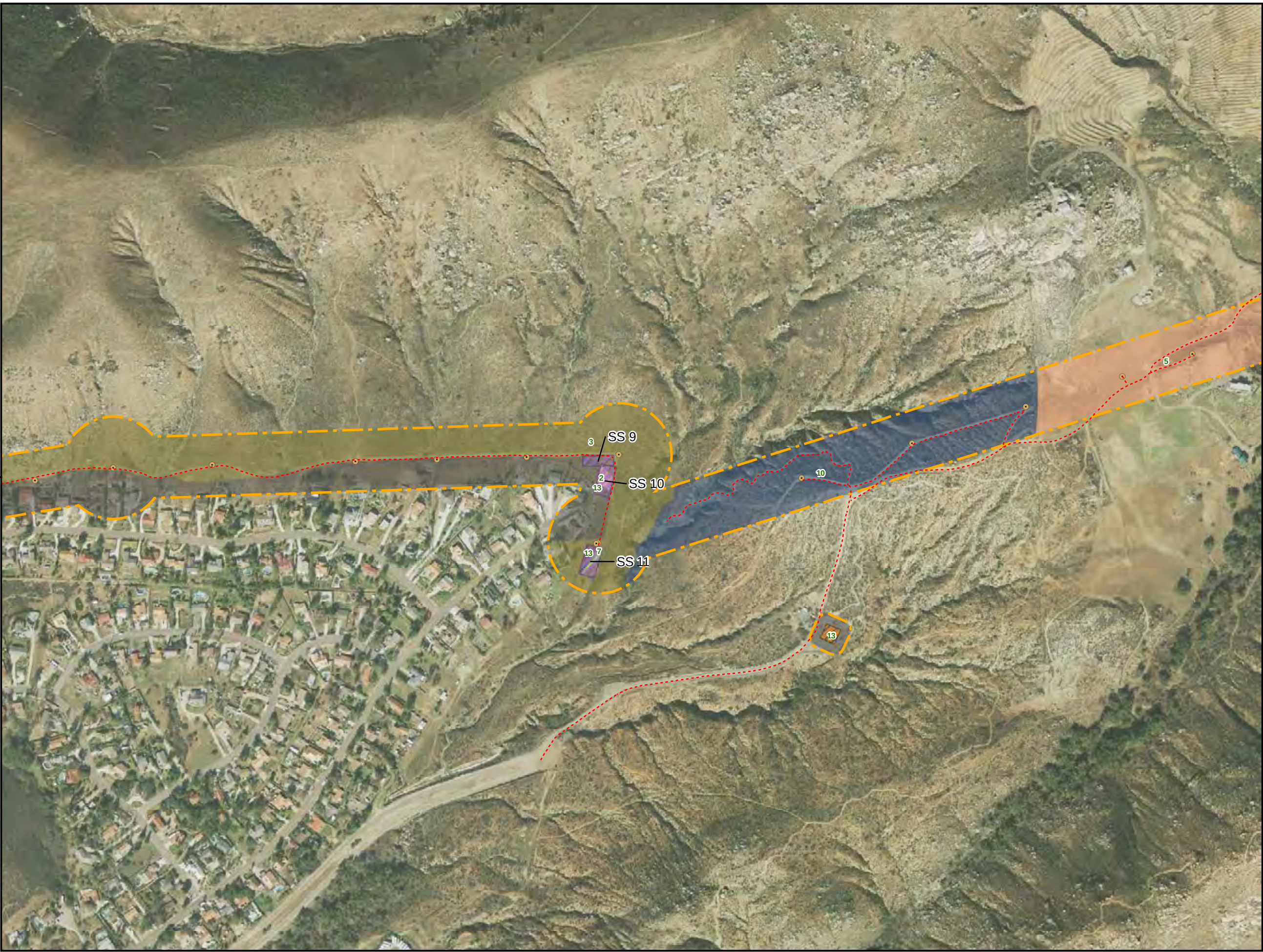


Figure 4
TL-637

Vegetation Communities Map

Page 5 of 15 Version Date: 1/21/2013



Legend

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

- 1. Agriculture
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- Rare Plant Points
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Figure 4
TL-637

Vegetation Communities Map

Page 6 of 15 Version Date: 1/21/2013



- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

- 1. Agriculture
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Figure 4
TL-637

Vegetation Communities Map

Page 7 of 15 Version Date: 1/21/2013

- Poles
 - Access
 - Staging Yards
 - String Sites
 - Survey Area
 - Guard Structure
- FWS National Wetland Inventory**
- Wetlands
- Vegetation Community**
- 1. Agriculture
 - 2. Chaparral
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 - 5. Disturbed
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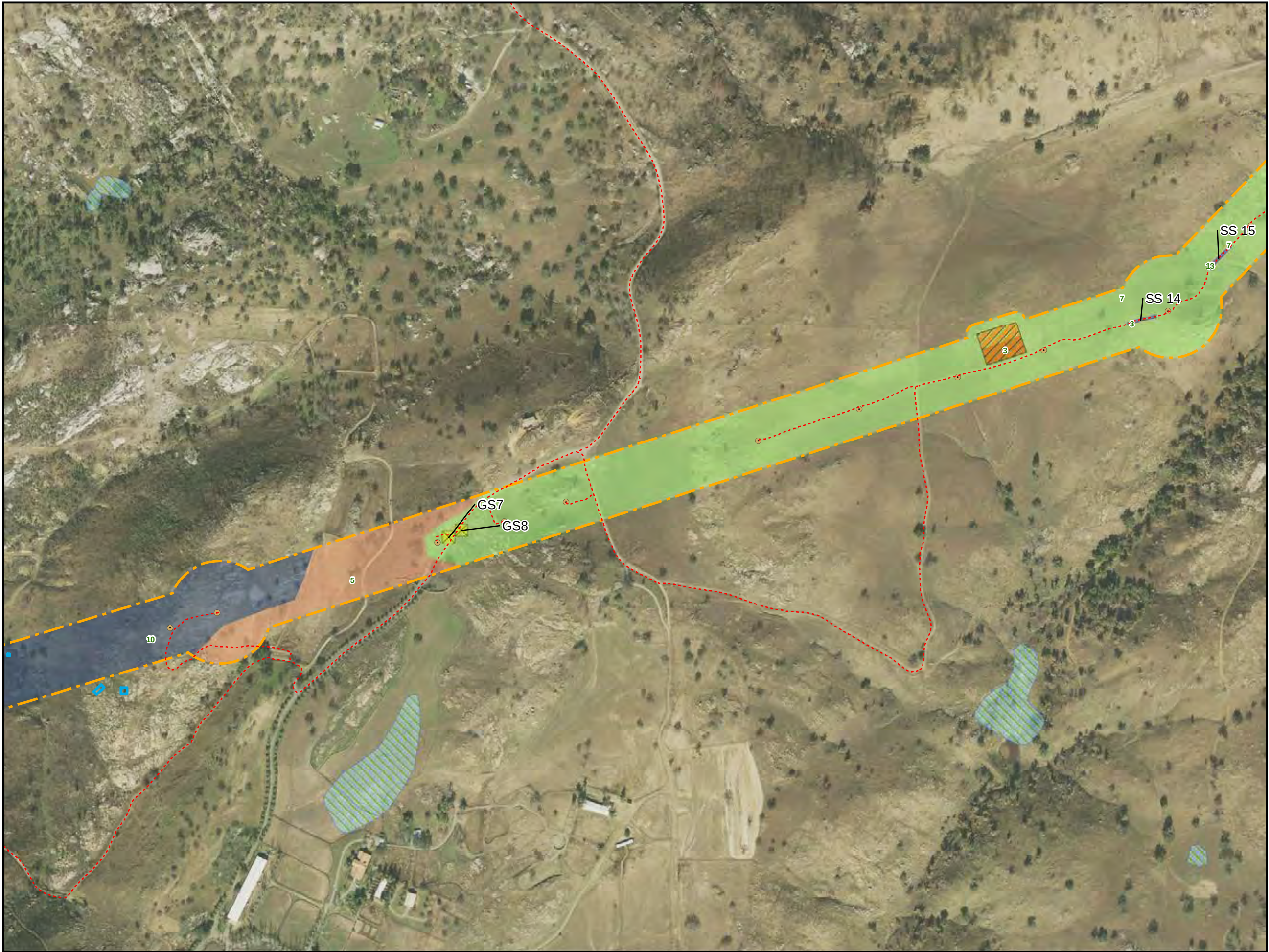


Figure 4
TL-637

Vegetation Communities Map

Page 8 of 15 Version Date: 1/21/2013

- Poles
 - Access
 - Staging Yards
 - String Sites
 - Survey Area
 - Guard Structure
- FWS National Wetland Inventory**
- Wetlands
- Vegetation Community**
- 1. Agriculture
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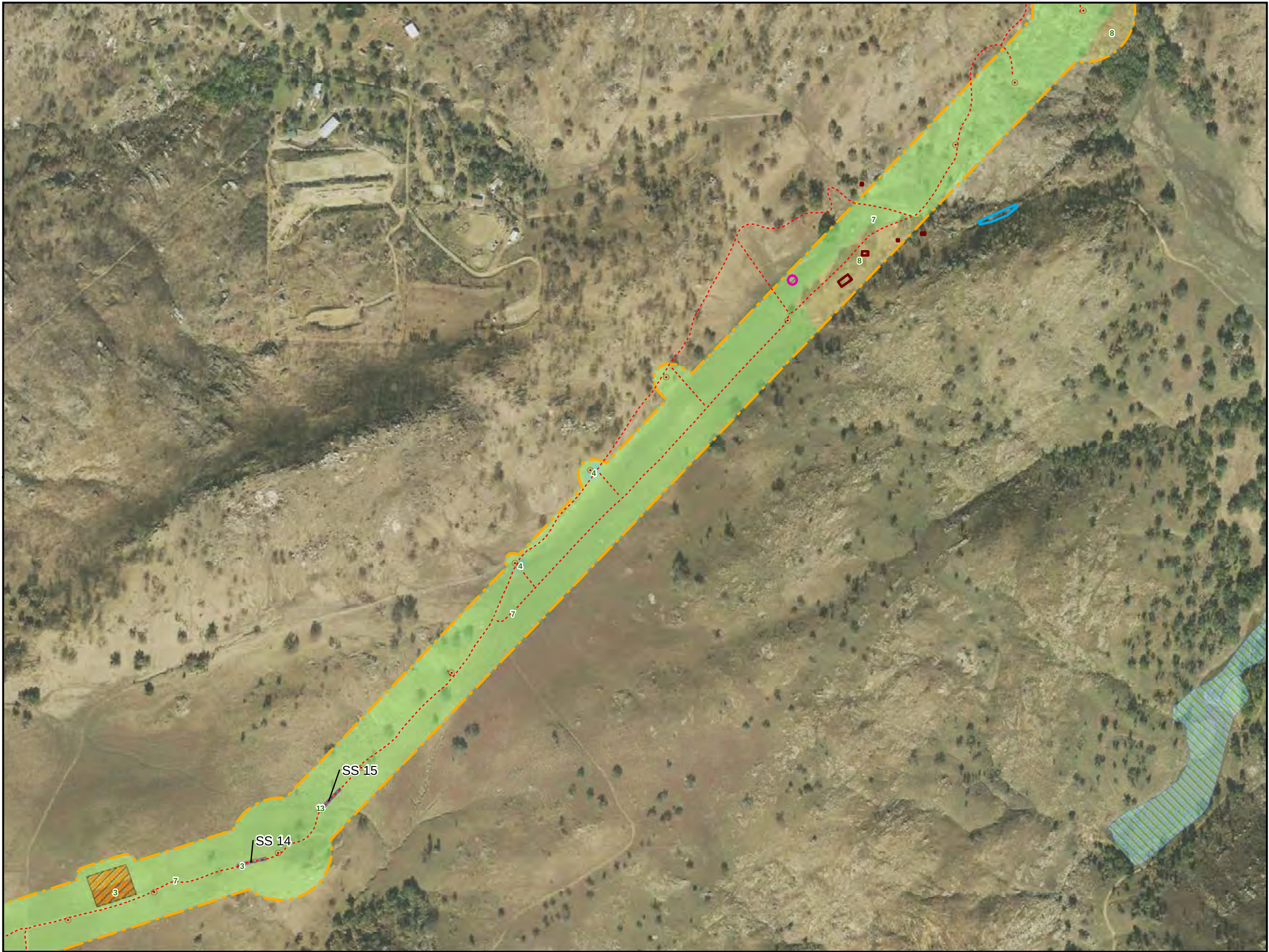


Figure 4
TL-637

Vegetation Communities Map

Page 9 of 15 Version Date: 1/21/2013

- Poles
 - Access
 - Staging Yards
 - String Sites
 - Survey Area
 - Guard Structure
- FWS National Wetland Inventory**
- Wetlands
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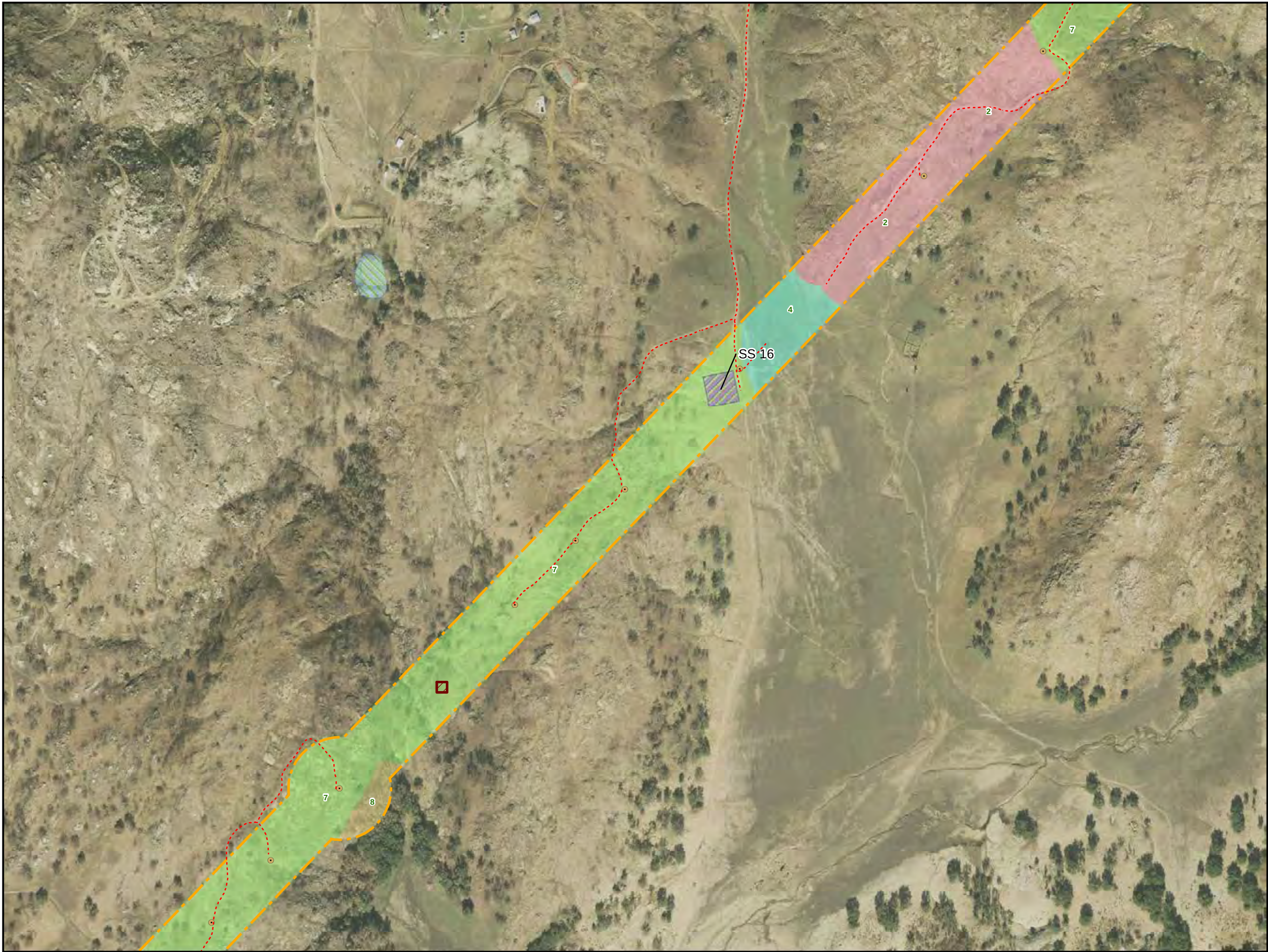


Figure 4
TL-637

Vegetation Communities Map

Page 10 of 15 Version Date: 1/21/2013

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

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- Tetracoccus dioicus



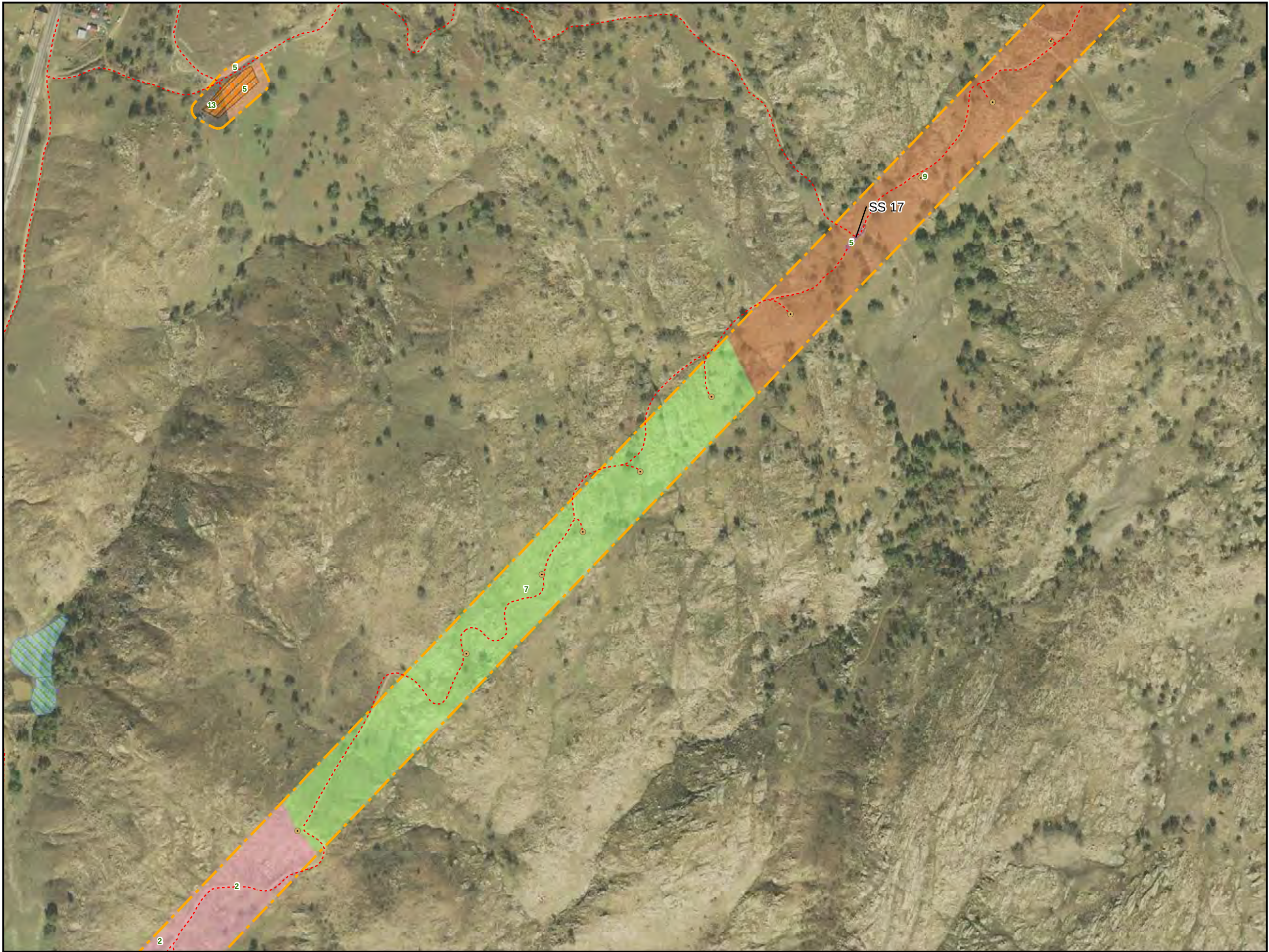


Figure 4
TL-637

Vegetation Communities Map

Page 11 of 15 Version Date: 1/21/2013

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

- 1. Agriculture
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Rare Plants

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Figure 4
TL-637

Vegetation Communities Map

Page 12 of 15 Version Date: 1/21/2013

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure

FWS National Wetland Inventory

- Wetlands

Vegetation Community

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Rare Plants

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Figure 4
TL-637

Vegetation Communities Map

Page 13 of 15 Version Date: 1/21/2013

- Poles
- Access
- Staging Yards
- String Sites
- Survey Area
- Guard Structure
- FWS National Wetland Inventory**
 - Wetlands
- Vegetation Community**
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 - Clarkia delicata
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 - Tetracoccus dioicus



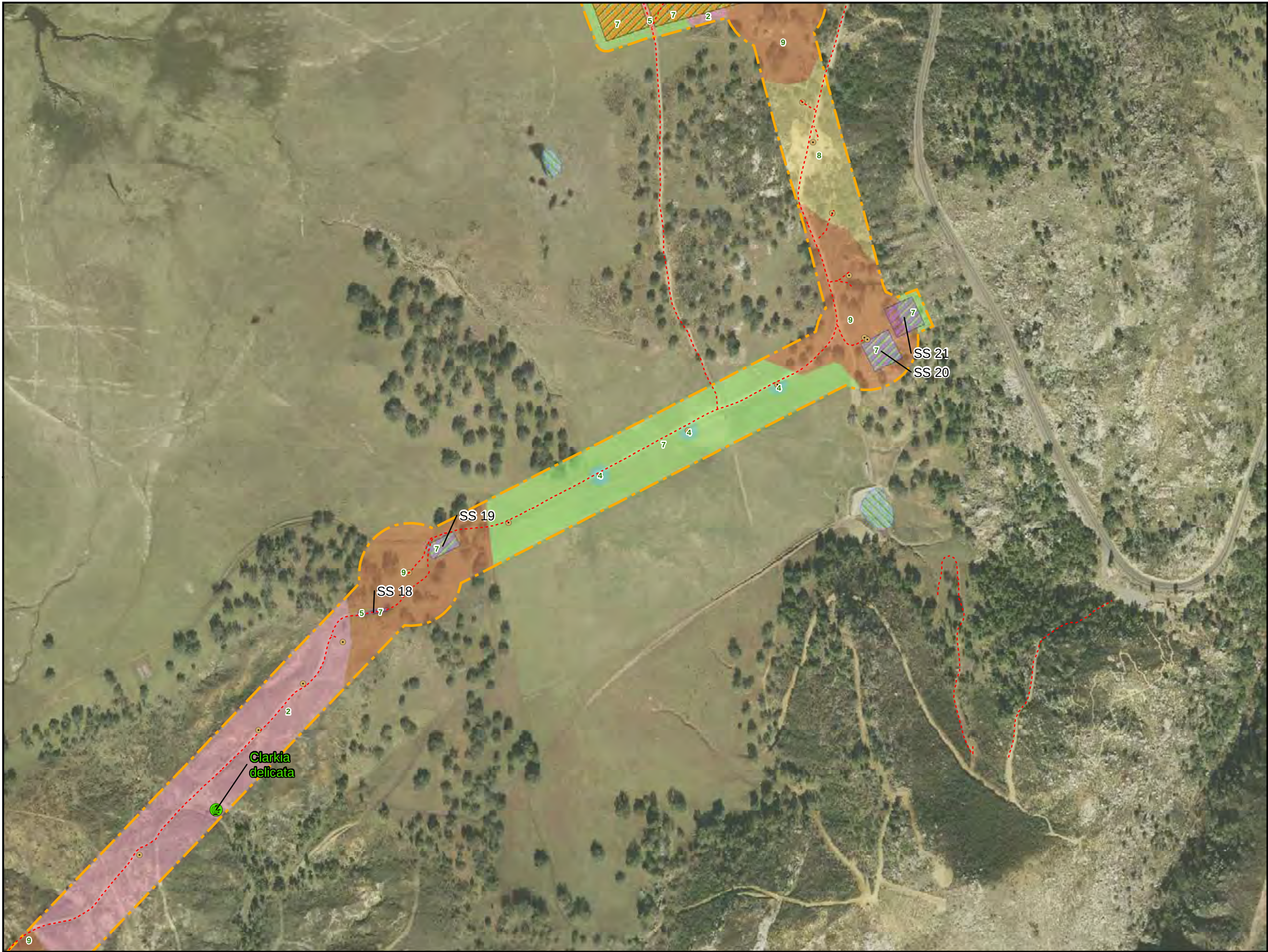


Figure 4
TL-637

Vegetation Communities Map

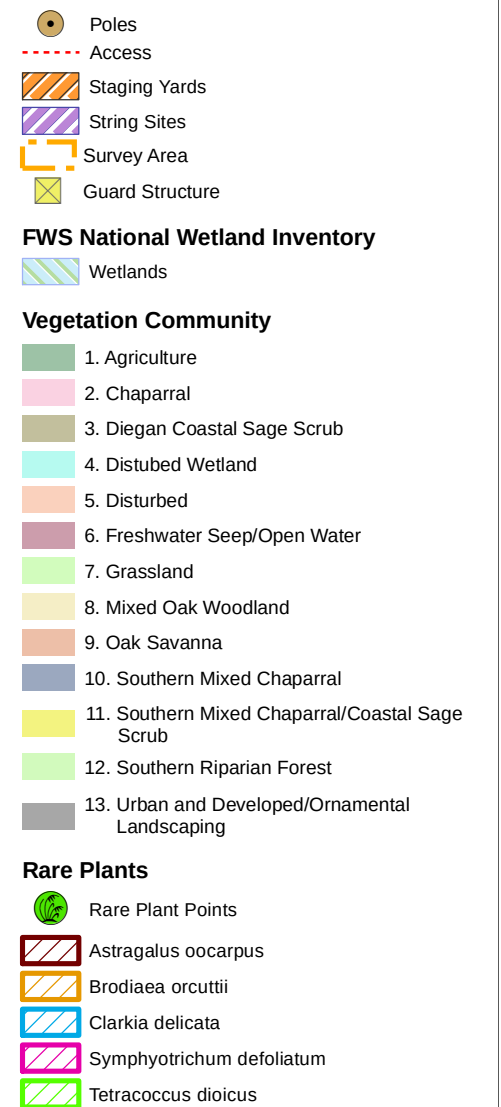
Page 14 of 15 Version Date: 1/21/2013

- Poles
 - Access
 - Staging Yards
 - String Sites
 - Survey Area
 - Guard Structure
- FWS National Wetland Inventory**
- Wetlands
- Vegetation Community**
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 - Brodiaea orcuttii
 - Clarkia delicata
 - Symphyotrichum defoliatum
 - Tetracoccus dioicus



Vegetation Communities Map

Version Date: 1/21/2013



APPENDIX B – FIGURE 5: TL 637 LAND OWNERSHIP MAP



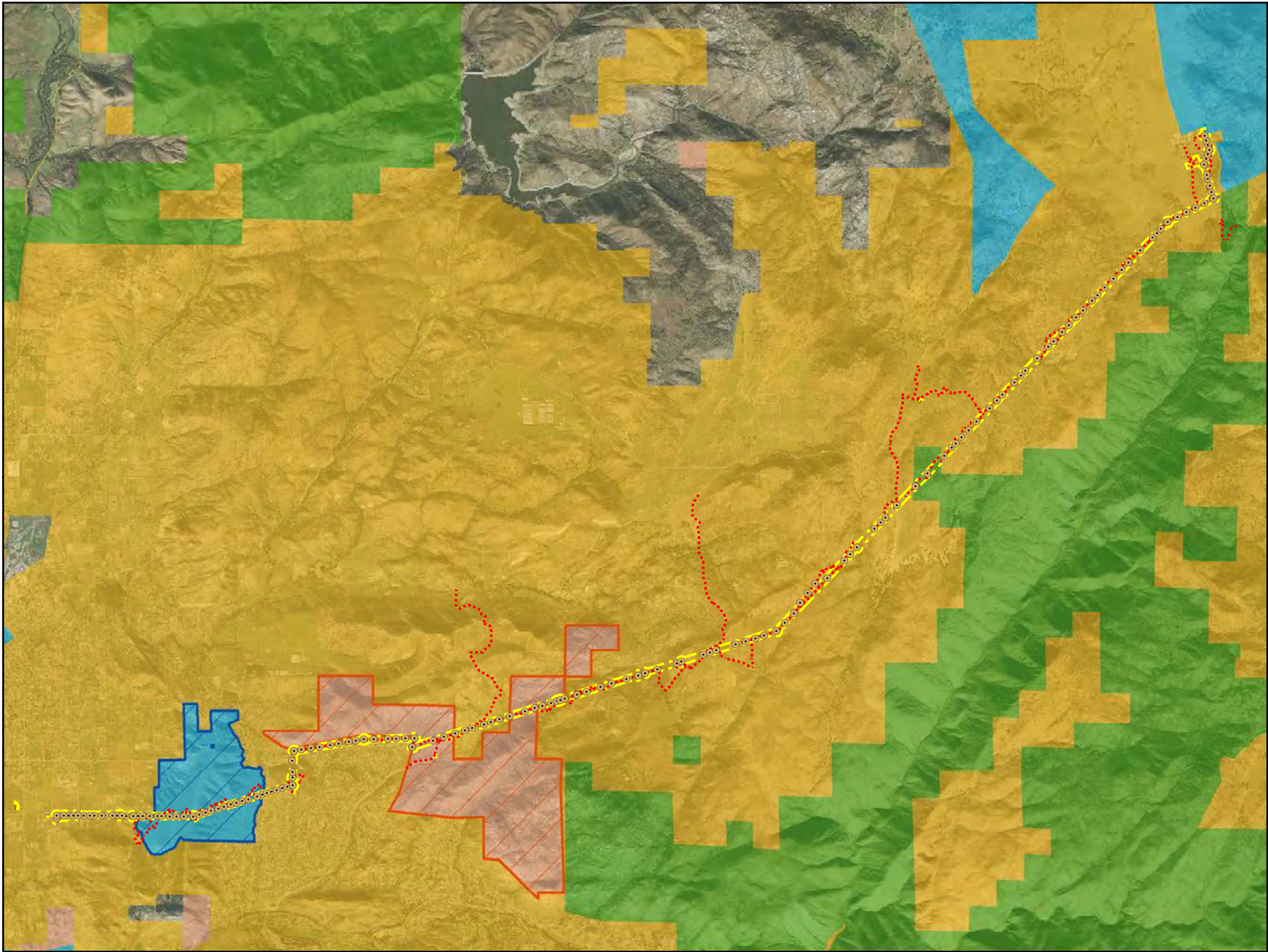
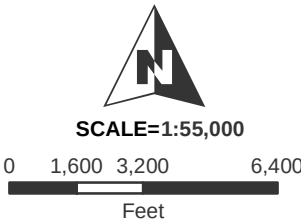


Figure 5
TL-637

Land Ownership Map

Version Date: 1/15/2013

- Poles
 - Access
 - - - Survey Area
 - ▨ Staging Yards
 - ▨ String Sites
- Preserve Areas**
- ▭ Mt. Gower Preserve
 - ▭ Simon Preserve
- Land Ownership Agency**
- ▭ County of San Diego
 - ▭ Bureau of Land Management
 - ▭ United States Forest Service
 - ▭ Private



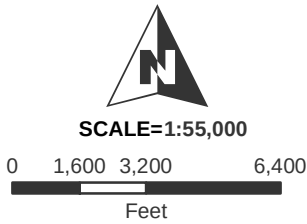
APPENDIX B – FIGURE 6: TL 637 SOIL SURVEY MAP



Figure 6
TL-637
Soil Survey Map

Overview Version Date: 1/10/2013

- Map Page Index
- Poles
- Access



SSURGO Soil Survey

Map Unit
Symbol

Map Unit Name

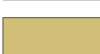
	AcG	Acid igneous rock land		LcE	La Posta rocky loamy coarse sand, 5 to 30 percent slope s
	AuF	Anderson very gravelly sandy loam, 9 to 45 percent slop es		Lu	Loamy alluvial land
	CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes , eroded		OhF	Olivenhain cobbly loam, 30 to 50 percent slopes
	CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes		OhE	Olivenhain cobbly loam, 9 to 30 percent slopes
	CnE2	Cieneba-Fallbrook rocky sandy loams, 9 to 30 percent sl opes, eroded		PeC	Placentia sandy loam, 2 to 9 percent slopes
	Co	Clayey alluvial land		RcD	Ramona gravelly sandy loam, 9 to 15 percent slopes
	CuE	Crouch rocky coarse sandy loam, 5 to 30 percent slopes		RaC	Ramona sandy loam, 5 to 9 percent slopes
	FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded		RkA	Reiff fine sandy loam, 0 to 2 percent slopes
	GrC	Greenfield sandy loam, 5 to 9 percent slopes		SpG2	Sheephead rocky fine sandy loam, 30 to 65 percent slope s, eroded
	HmE	Holland fine sandy loam, 15 to 30 percent slopes		SpE2	Sheephead rocky fine sandy loam, 9 to 30 percent slopes , eroded
	HmD	Holland fine sandy loam, 5 to 15 percent slopes		ToG	Tollhouse rocky coarse sandy loam, 30 to 65 percent slo pes
	HoC	Holland fine sandy loam, deep, 2 to 9 percent slopes		VaD	Visalia sandy loam, 9 to 15 percent slopes
	HnG	Holland stony fine sandy loam, 30 to 60 percent slopes		VsD	Vista coarse sandy loam, 9 to 15 percent slopes
	HnE	Holland stony fine sandy loam, 5 to 30 percent slopes		VvD	Vista rocky coarse sandy loam, 5 to 15 percent slopes

Figure 6
TL-637
Soil Survey Map

-  Poles
-  Access
-  Staging Yards
-  String Sites

***SSURGO Soils Label
= Map Unit Symbol**

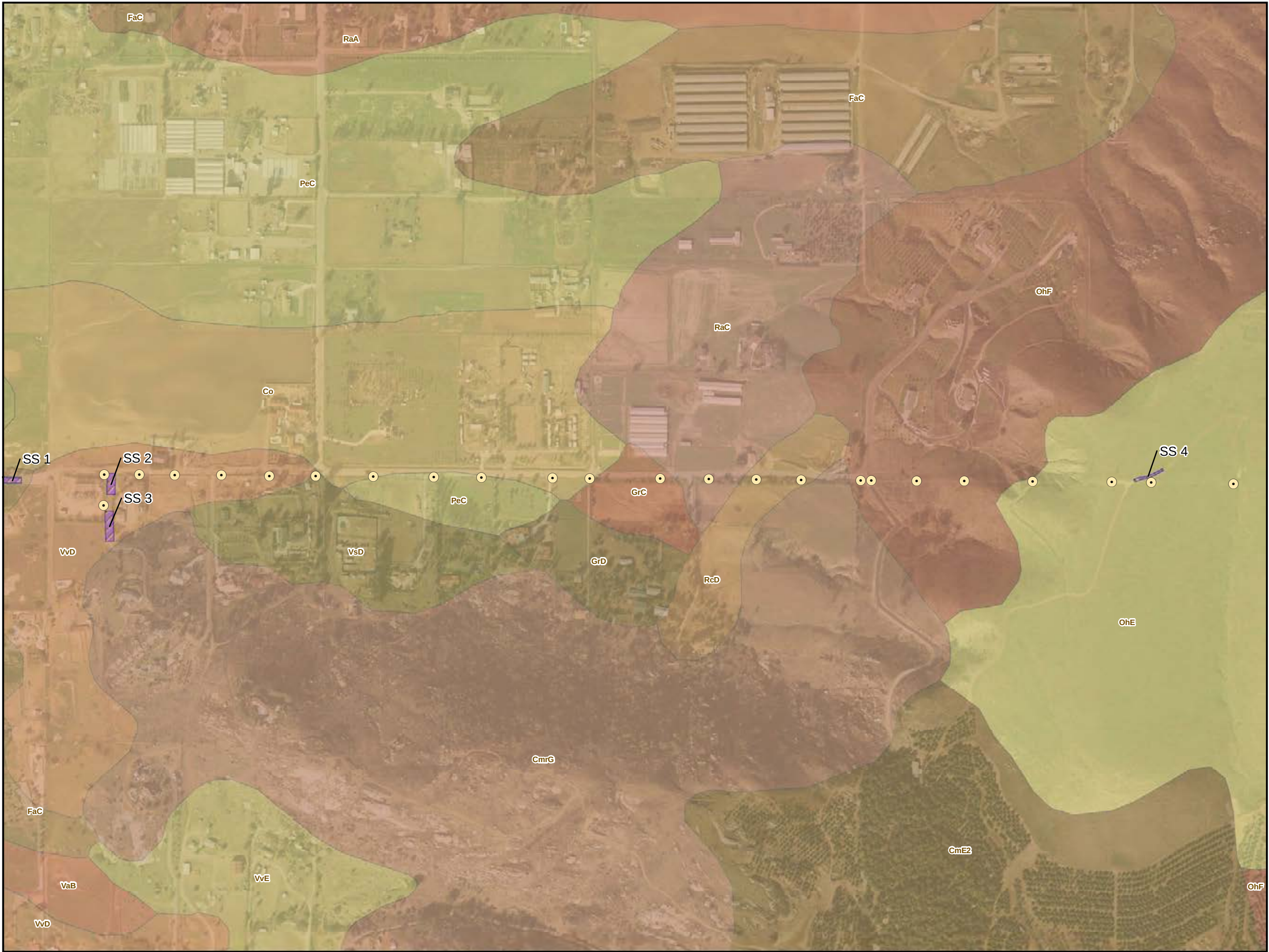
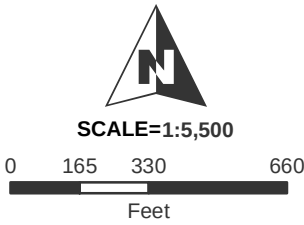


Figure 6
TL-637
Soil Survey Map

-  Poles
-  Access
-  Staging Yards
-  String Sites

***SSURGO Soils Label
= Map Unit Symbol**

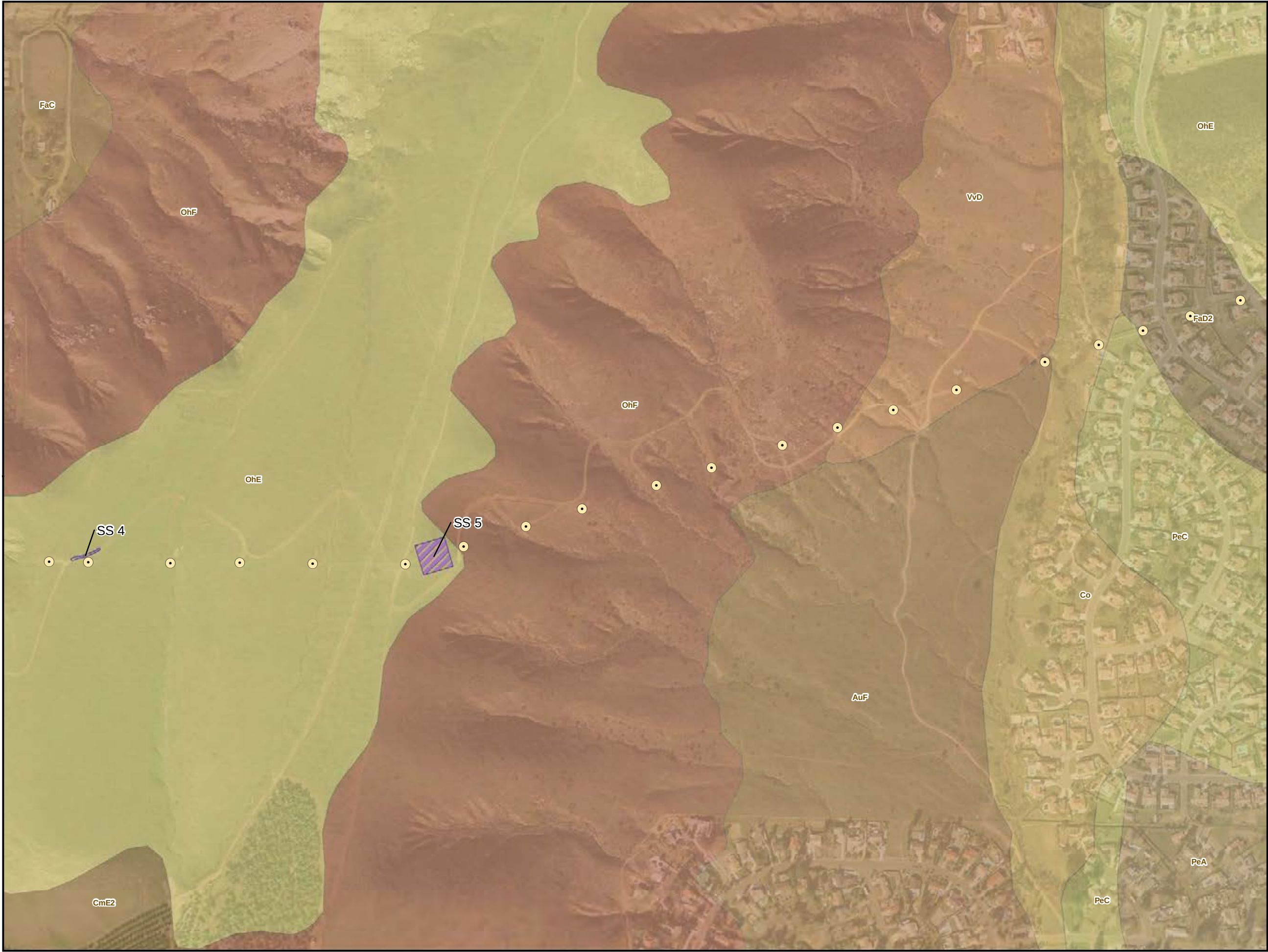
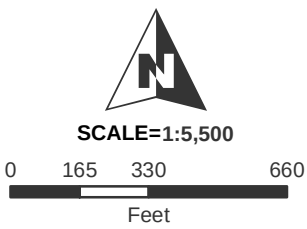




Figure 6
TL-637
Soil Survey Map

Page 3 of 14 Version Date: 1/15/2013

-  Poles
-  Access
-  Staging Yards
-  String Sites

***SSURGO Soils Label
 = Map Unit Symbol**

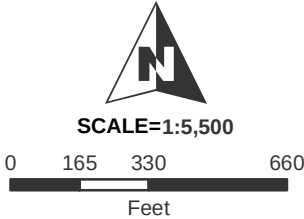


Figure 6
TL-637
Soil Survey Map

-  Poles
-  Access
-  Staging Yards
-  String Sites

***SSURGO Soils Label
= Map Unit Symbol**

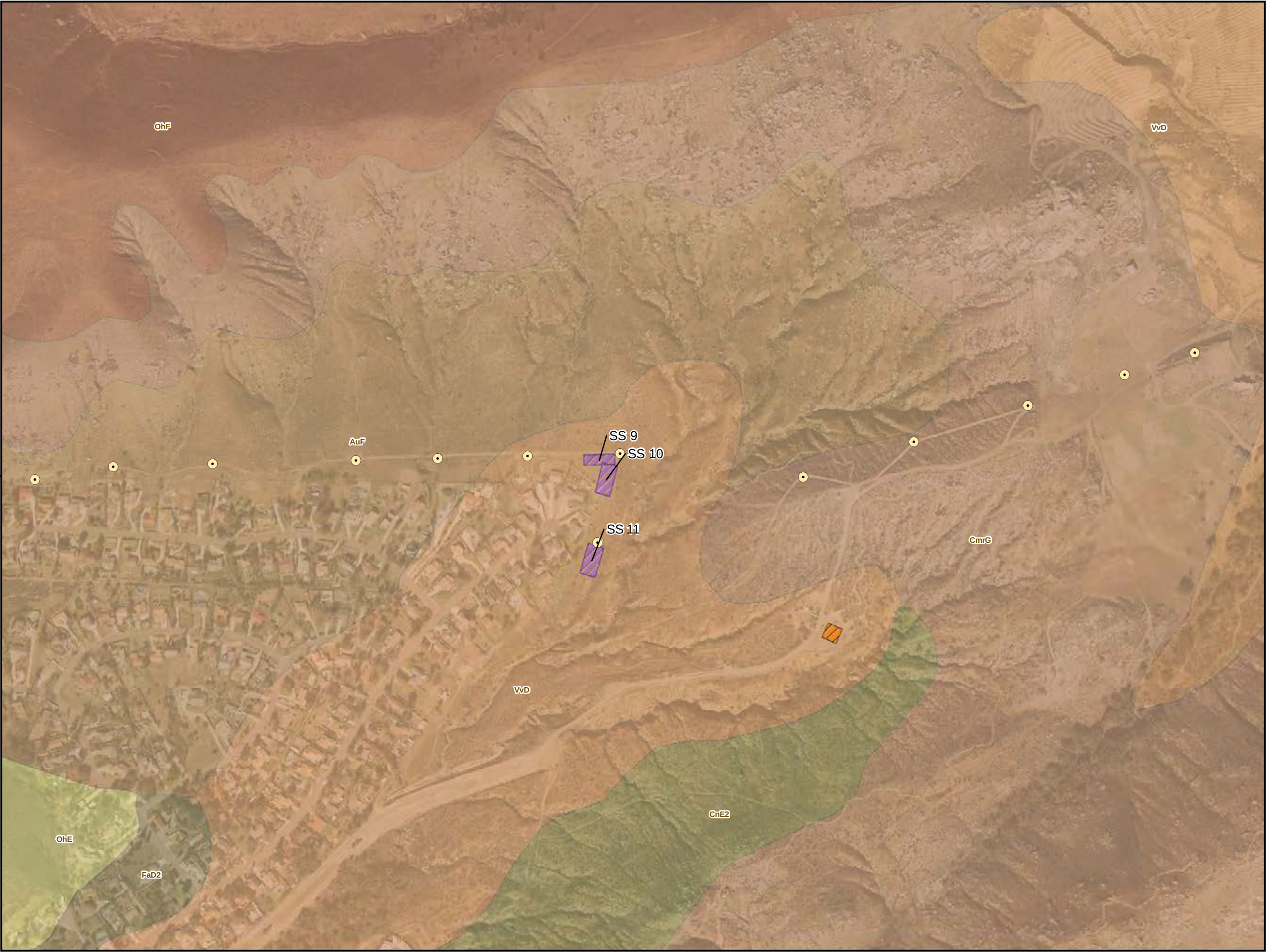
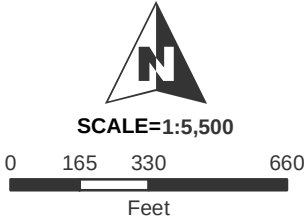




Figure 6
TL-637
Soil Survey Map

Page 5 of 14 Version Date: 1/15/2013

-  Poles
-  Access
-  Staging Yards
-  String Sites

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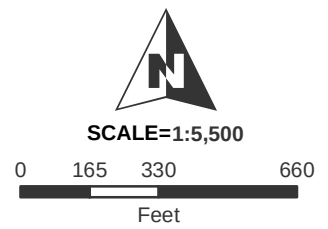
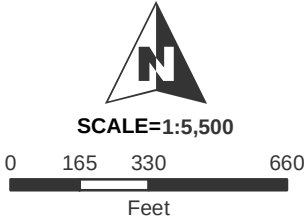


Figure 6
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Soil Survey Map

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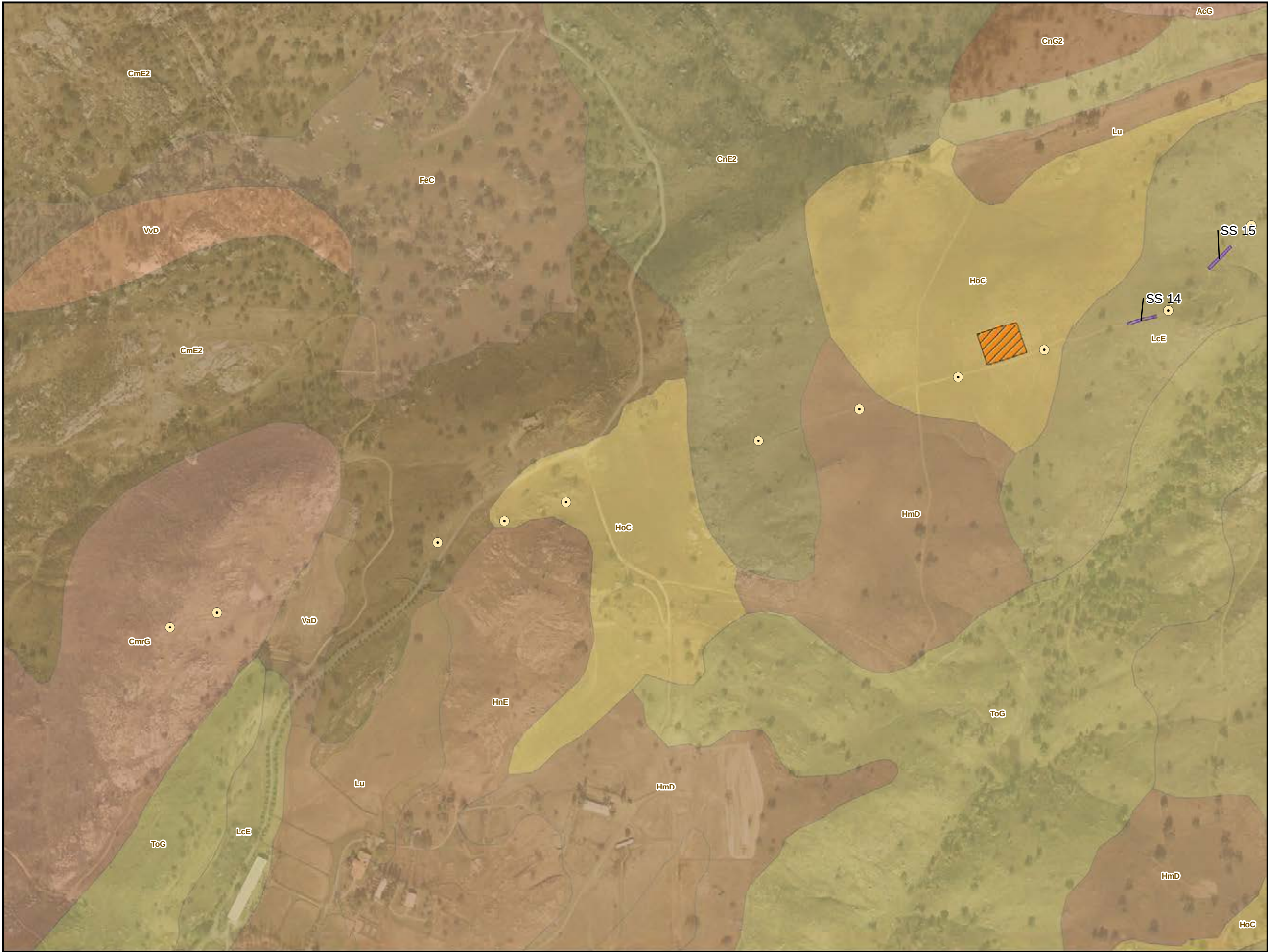
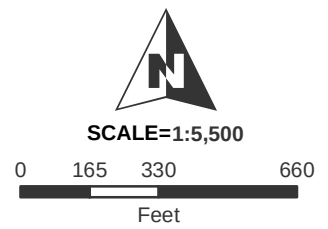


Figure 6
TL-637
Soil Survey Map

Page 7 of 14 Version Date: 1/15/2013

- Poles
- Access
- Staging Yards
- String Sites

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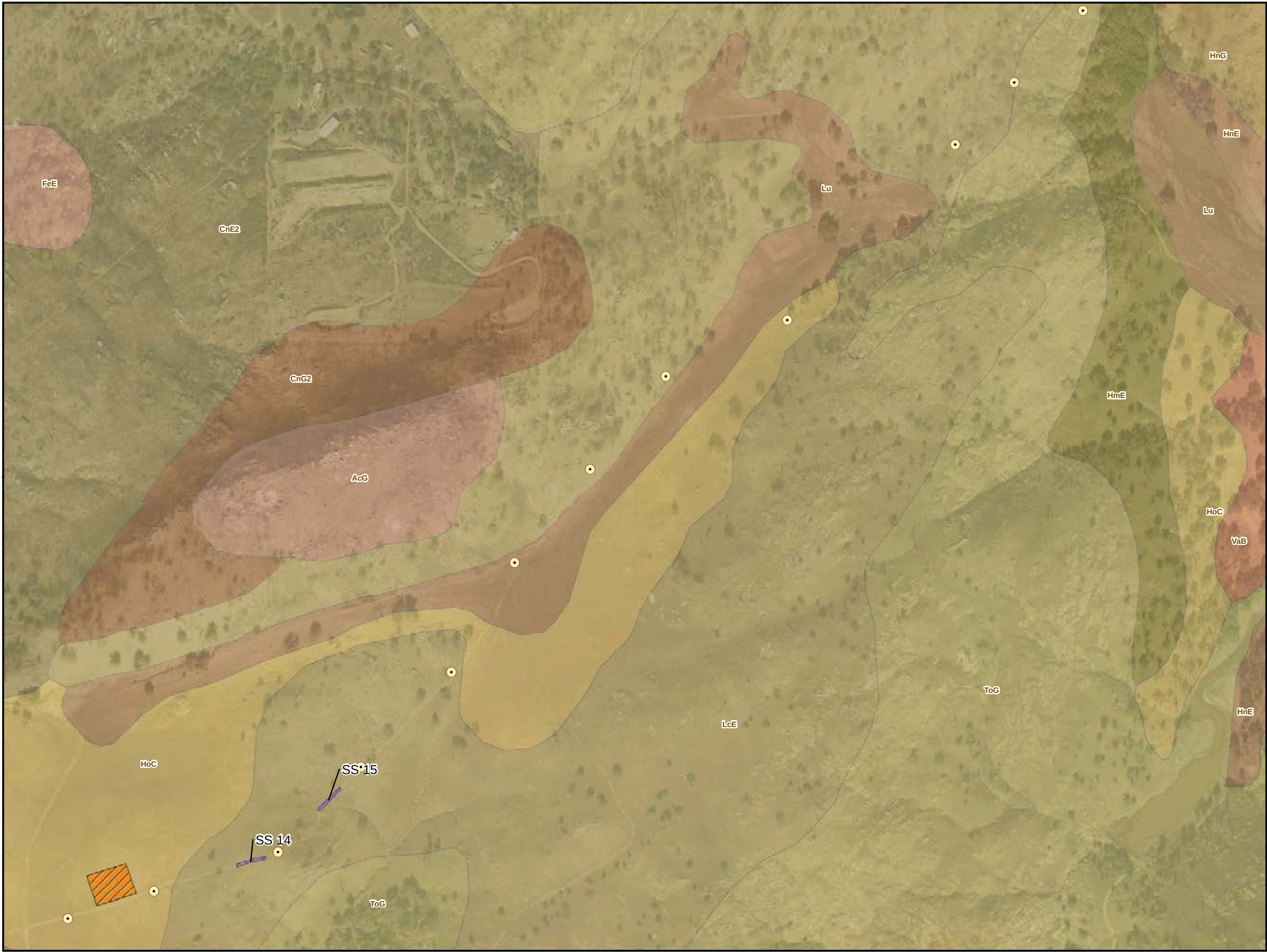


Figure 6
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Soil Survey Map

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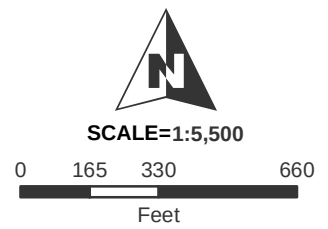
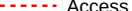


Figure 6
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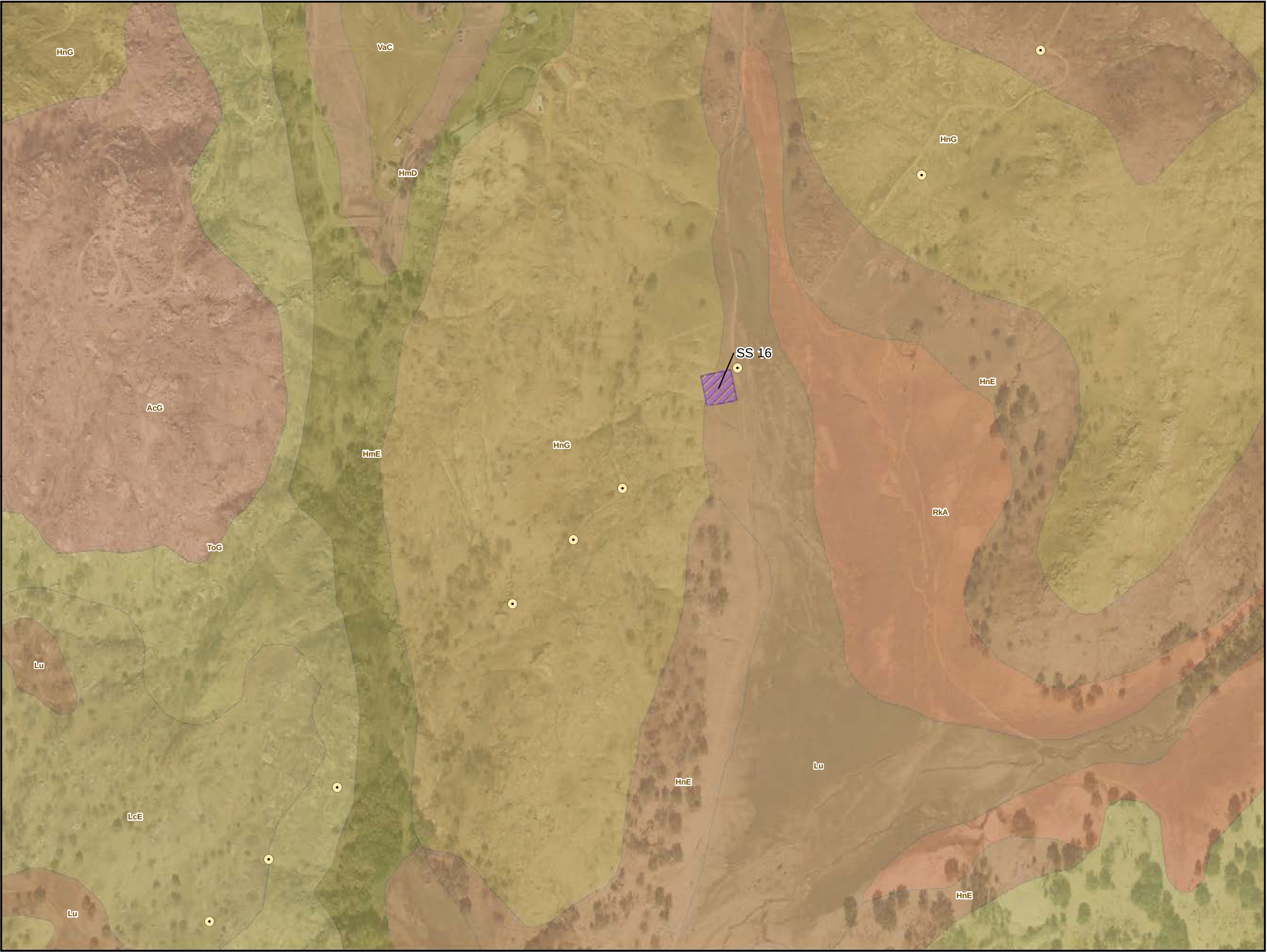
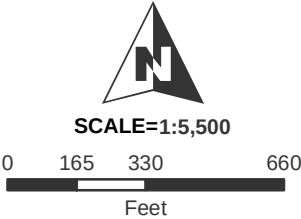




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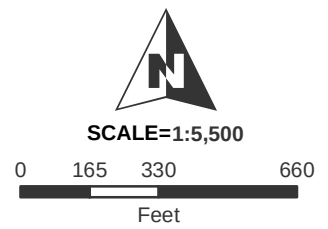


Figure 6
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Soil Survey Map

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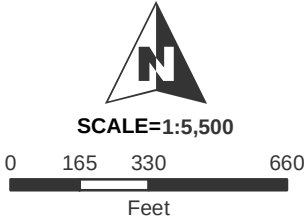


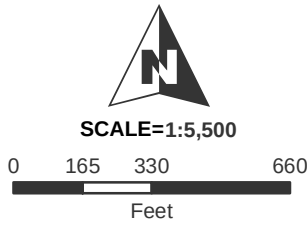


Figure 6
TL-637
Soil Survey Map

Page 12 of 14 Version Date: 1/15/2013

-  Poles
-  Access
-  Staging Yards
-  String Sites

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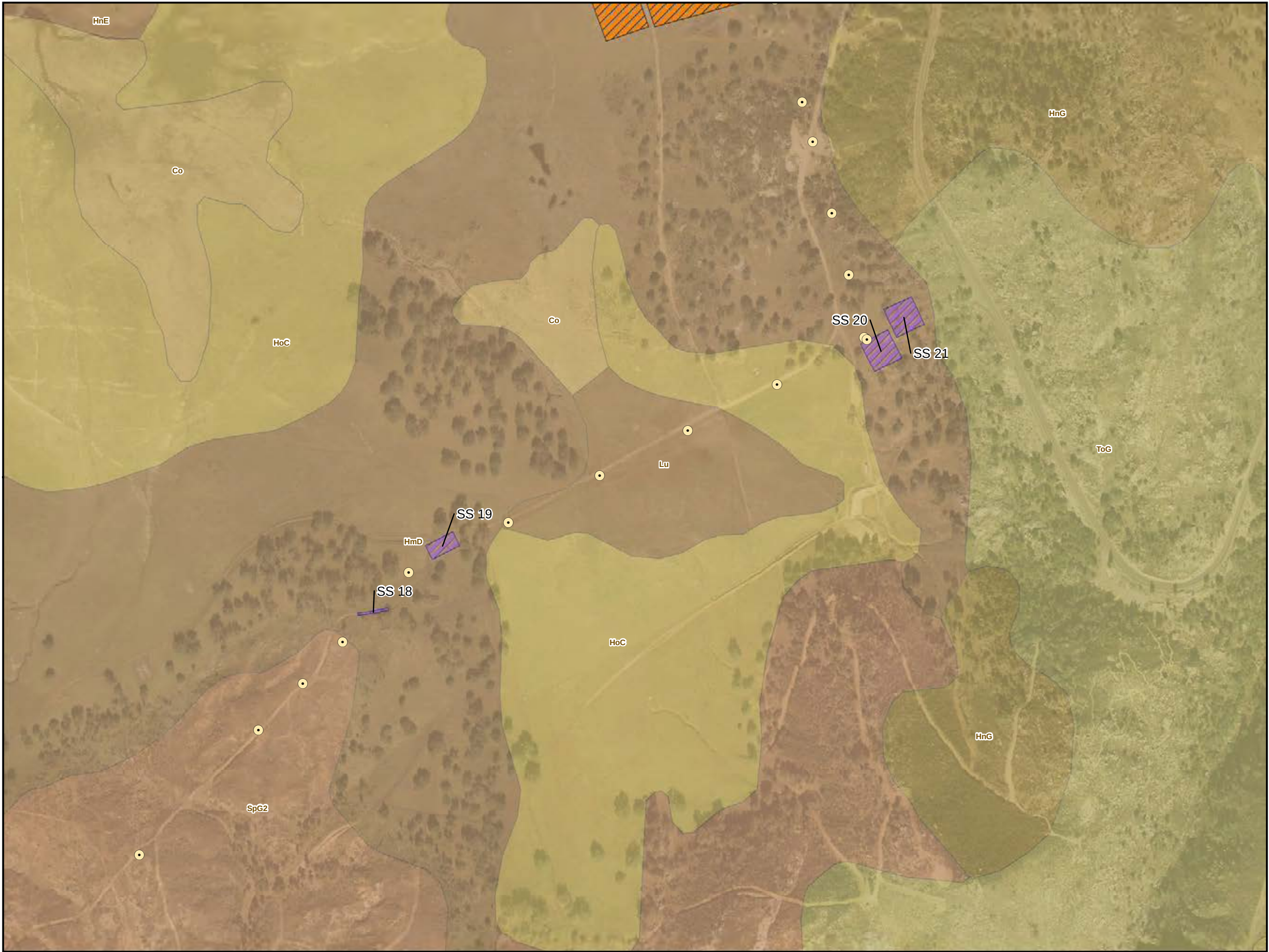
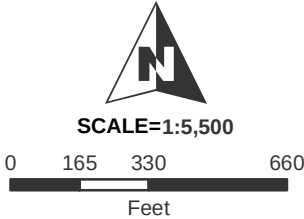


Figure 6
TL-637
Soil Survey Map

Page 13 of 14 Version Date: 1/15/2013

- Poles
- Access
- Staging Yards
- String Sites

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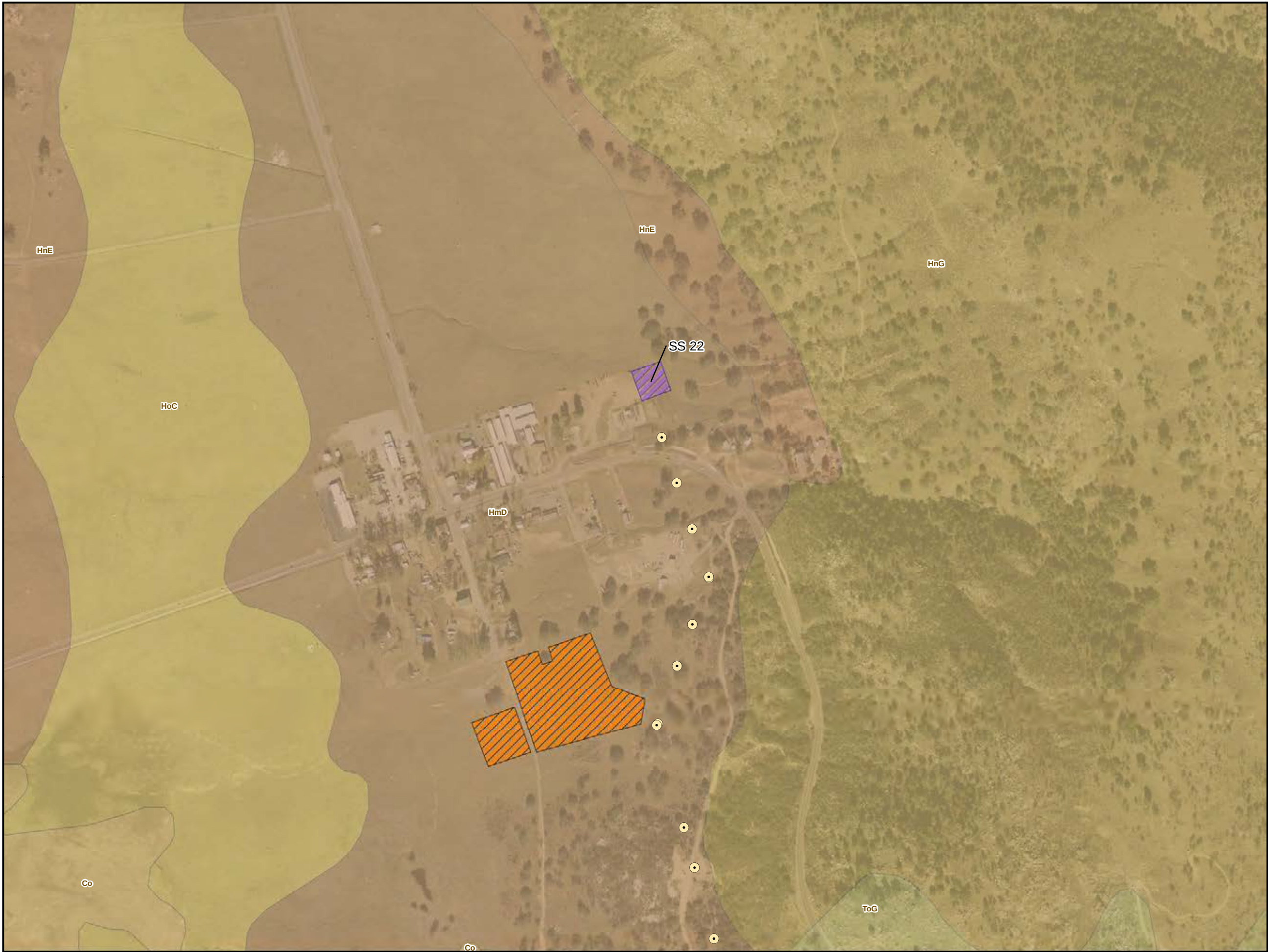
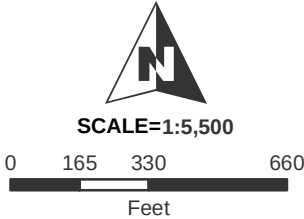


Figure 6
TL-637
Soil Survey Map

Page 14 of 14 Version Date: 1/15/2013

-  Poles
-  Access
-  Staging Yards
-  String Sites

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APPENDIX C –PLANT SPECIES OBSERVED LIST



TIE LINE 637 (RAMONA TO JULIAN) PLANT SPECIES OBSERVED LIST

Scientific Name	Common Name
FERNS AND FERN ALLIES	
DRYOPTERIDACEAE	WOOD FERN FAMILY
<i>Athyrium filix-femina</i>	lady fern
<i>Dryopteris arguta</i>	coastal wood fern
POLYPODIACEAE	POLYPODY FAMILY
<i>Polypodium californicum</i>	California polypody
PTERIDACEAE	BRAKE FAMILY
<i>Cheilanthes clevelandii</i>	Cleveland's lip fern
<i>Cheilanthes covillei</i>	Coville's lip fern
<i>Cheilanthes newberryi</i>	California cotton fern
<i>Pellaea andromedifolia</i>	coffee fern
<i>Pellaea mucronata</i> var. <i>mucronata</i>	bird's foot cliff-brake
<i>Pentagramma triangularis</i>	goldenback fern
<i>Pentagramma triangularis</i> ssp. <i>triangularis</i>	California goldenback fern
SELAGINELLACEAE	SPIKE-MOSS FAMILY
<i>Selaginella bigelovii</i>	Bigelow's spike-moss
GYMNOSPERMS	
CUPRESSACEAE	CYPRESS FAMILY
<i>Cupressus sempervirens</i> *	Italian cypress
PINACEAE	PINE FAMILY
<i>Pinus halepensis</i> *	aleppo pine
<i>Pinus</i> sp.	pine
ANGIOSPERMS (MONOCOTS)	
AGAVACEAE	AGAVE FAMILY
<i>Hesperoyucca whipplei</i>	Our Lord's candle
<i>Yucca schidigera</i>	Mojave yucca
ALLIACEAE	ONION FAMILY
<i>Allium haematochiton</i>	red-skinned onion
<i>Allium peninsulare</i> var. <i>peninsulare</i>	red-flower onion
<i>Allium</i> sp.	onion
CYPERACEAE	SEDGE FAMILY
<i>Carex triquetra</i>	triangular-fruited sedge
<i>Eleocharis macrostachya</i>	pale spike-rush
<i>Eleocharis</i> sp.	spike-rush
HYACINTHACEAE	HYACINTH FAMILY
<i>Chlorogalum parviflorum</i>	small-flowered amole
IRIDACEAE	IRIS FAMILY
<i>Sisyrinchium bellum</i>	blue-eyed grass
JUNCACEAE	RUSH FAMILY
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush

Scientific Name	Common Name
<i>Juncus arcticus</i> var. <i>mexicanus</i>	Mexican rush
<i>Juncus bufonius</i>	toad rush
<i>Juncus</i> sp.	rush
<i>Juncus xiphioides</i>	iris-leaved rush
LILIACEAE	LILY FAMILY
<i>Calochortus concolor</i>	mariposa lily
<i>Calochortus splendens</i>	lilac mariposa lily
POACEAE	GRASS FAMILY
<i>Achnatherum coronatum</i>	giant needlegrass
<i>Aristida purpurea</i>	purple three-awn
<i>Avena barbata</i> *	slender wild oat
<i>Avena fatua</i> *	wild oat
<i>Avena sativa</i> *	cultivated oats
<i>Brachypodium distachyon</i> *	false-brome
<i>Briza minor</i>	quaking grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i> *	ripgut grass
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus japonicus</i> *	Japanese brome
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail chess
<i>Bromus tectorum</i> *	cheat grass
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Dactylis glomerata</i> *	orchard grass
<i>Distichlis spicata</i>	saltgrass
<i>Elymus glaucus</i>	blue wildrye
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye
<i>Gastridium ventricosum</i> *	nit grass
<i>Hordeum murinum</i> *	foxtail barley
<i>Hordeum murinum</i> ssp. <i>gussoneanum</i> *	Mediterranean barley
<i>Hordeum</i> sp.	barley
<i>Lamarckia aurea</i> *	goldentop
<i>Leymus triticoides</i>	beardless wild rye
<i>Lolium multiflorum</i> *	Italian ryegrass
<i>Lolium temulentum</i> *	darnel
<i>Melica imperfecta</i>	coast range melic
<i>Melinis repens</i> ssp. <i>repens</i> *	natal grass
<i>Muhlenbergia microsperma</i>	little-seed muhly
<i>Muhlenbergia rigens</i>	deergrass
<i>Nassella cernua</i>	nodding needlegrass
<i>Nassella lepida</i>	foothill needlegrass
<i>Nassella pulchra</i>	purple needlegrass

Scientific Name	Common Name
<i>Pennisetum setaceum</i> *	fountain grass
<i>Phalaris</i> sp.	canary grass
<i>Piptatherum miliaceum</i> *	smilo grass
<i>Poa pratensis</i> ssp. <i>pratensis</i> *	Kentucky bluegrass
<i>Polypogon monspeliensis</i> *	annual beard grass
<i>Schismus barbatus</i> *	Mediterranean schismus
<i>Secale cereale</i> *	common rye
<i>Vulpia myuros</i> *	fescue
<i>Vulpia myuros</i> var. <i>myuros</i> *	rat-tail fescue
THEMIDACEAE	BRODIAEA FAMILY
<i>Bloomeria crocea</i> var. <i>crocea</i>	common goldenstar
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea
<i>Brodiaea terrestris</i> ssp. <i>kernensis</i>	dwarf brodiaea
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	blue dicks
<i>Muilla maritima</i>	common muilla
ANGIOSPERMS (EUDICOTS)	
ADOXACEAE	ADOXA FAMILY
<i>Sambucus mexicana</i>	blue elderberry
AIZOACEAE	FIG-MARIGOLD FAMILY
<i>Carpobrotus edulis</i> *	hottentot-fig
<i>Mesembryanthemum crystallinum</i> *	crystalline iceplant
<i>Mesembryanthemum nodiflorum</i> *	slender-leaved iceplant
AMARANTHACEAE	AMARANTH FAMILY
<i>Amaranthus albus</i>	tumbling pigweed
<i>Amaranthus retroflexus</i> *	rough pigweed
<i>Amaranthus</i> sp.	pigweed
<i>Chenopodium album</i> *	lamb's quarters
<i>Chenopodium californicum</i>	California goosefoot
<i>Chenopodium</i> sp.	goosefoot
<i>Salsola tragus</i> *	Russian-thistle
ANACARDIACEAE	SUMAC OR CASHEW FAMILY
<i>Malosma laurina</i>	laurel sumac
<i>Rhus ovata</i>	sugar bush
<i>Rhus trilobata</i>	skunkbush
<i>Schinus molle</i> *	Peruvian pepper tree
<i>Toxicodendron diversilobum</i>	poison oak
APIACEAE	CARROT FAMILY
<i>Apiastrum angustifolium</i>	wild celery
<i>Daucus pusillus</i>	rattlesnake weed
<i>Hydrocotyle umbellata</i>	many-flower marsh-pennywort
<i>Lomatium dasycarpum</i> ssp. <i>dasycarpum</i>	woolly-fruit lomatium

Scientific Name	Common Name
<i>Sanicula arguta</i>	sharp-toothed sanicle
<i>Sanicula bipinnata</i>	poison sanicle
<i>Sanicula bipinnatifida</i>	purple sanicle
<i>Sanicula crassicaulis</i>	Pacific sanicle
<i>Tauschia arguta</i>	southern tauschia
APOCYNACEAE	DOGBANE FAMILY
<i>Asclepias californica</i>	California milkweed
<i>Asclepias eriocarpa</i>	Indian milkweed
<i>Nerium oleander</i> *	oleander
ASTERACEAE	SUNFLOWER FAMILY
<i>Achillea millefolium</i>	California yarrow
<i>Acourtia microcephala</i>	sacapellote
<i>Ambrosia psilostachya</i>	western ragweed
<i>Anthemis cotula</i> *	mayweed
<i>Artemisia californica</i>	California sagebrush
<i>Artemisia douglasiana</i>	Douglas mugwort
<i>Artemisia ludoviciana</i> ssp. <i>ludoviciana</i>	silver wormwood
<i>Baccharis pilularis</i>	coyote brush
<i>Baccharis salicifolia</i>	mule-fat
<i>Baccharis sarothroides</i>	broom baccharis
<i>Brickellia californica</i>	California brickellbush
<i>Carduus pycnocephalus</i> *	Italian thistle
<i>Centaurea melitensis</i> *	toalote
<i>Chaenactis artemisiifolia</i>	white pincushion
<i>Chaenactis glabriuscula</i>	yellow pincushion
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	yellow pincushion
<i>Chrysanthemum coronarium</i> *	garland daisy
<i>Cirsium occidentale</i> var. <i>californicum</i>	California thistle
<i>Cirsium occidentale</i>	thistle
<i>Cirsium scariosum</i>	bird's-nest thistle
<i>Conyza bonariensis</i> *	flax-leaf fleabane
<i>Conyza canadensis</i>	horseweed
<i>Conyza</i> sp.	horseweed
<i>Corethrogyne filaginifolia</i>	California sand-aster
<i>Corethrogyne filaginifolia</i> var. <i>filaginifolia</i>	common sand-aster
<i>Coreopsis californica</i> var. <i>californica</i>	California coreopsis
<i>Cotula australis</i> *	Australian brass-buttons
<i>Cotula coronopifolia</i> *	brass-buttons
<i>Deinandra fasciculata</i>	fascicled tarweed
<i>Dimorphotheca sinuata</i> *	blue-eye cape-marigold
<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy daisy

Scientific Name	Common Name
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	long-stem golden-yarrow
<i>Eriophyllum wallacei</i>	Wallace's woolly daisy
<i>Euryops</i> sp.	euryops
<i>Filago californica</i>	California filago
<i>Filago gallica</i> *	narrow-leaf filago
<i>Gazania linearis</i> *	treasure flower
<i>Gazania</i> sp. *	African daisy
<i>Gnaphalium californicum</i>	California everlasting
<i>Gnaphalium palustre</i>	lowland cudweed
<i>Gnaphalium stramineum</i>	cotton-batting plant
<i>Grindelia hirsutula</i> var. <i>hallii</i>	San Diego gumplant
<i>Gutierrezia californica</i>	California matchweed
<i>Gutierrezia sarothrae</i>	broom matchweed
<i>Hazardia squarrosa</i>	southern saw-tooth goldenbush
<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	southern saw-toothed goldenbush
<i>Hedypnois cretica</i> *	Crete hedypnois
<i>Helianthus gracilentus</i>	slender sunflower
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hypochaeris glabra</i> *	smooth cat's ear
<i>Lactuca serriola</i> *	prickly lettuce
<i>Lasthenia gracilis</i>	common goldfields
<i>Layia glandulosa</i>	white tidy-tips
<i>Machaeranthera juncea</i>	rush chaparral-star
<i>Madia elegans</i>	elegant madia
<i>Malacothrix clevelandii</i>	Cleveland's malacothrix
<i>Matricaria matricarioides</i> *	common pineapple-weed
<i>Osmadenia tenella</i>	southern rosinweed
<i>Porophyllum gracile</i>	odora
<i>Psuedognaphalium biolettii</i>	bicolor cudweed
<i>Psuedognaphalium microcephalum</i>	white everlasting
<i>Rafinesquia californica</i>	California chicory
<i>Senecio californicus</i>	California butterweed
<i>Senecio vulgaris</i> *	common groundsel
<i>Solidago californica</i>	California goldenrod
<i>Sonchus asper</i> ssp. <i>asper</i> *	prickly sow-thistle
<i>Sonchus oleraceus</i> *	common sow-thistle
<i>Stephanomeria exigua</i> ssp. <i>exigua</i>	small wreath-plant
<i>Stephanomeria</i> sp.	wreath-plant
<i>Stylocline gnaphaloides</i>	everlasting nest-straw
<i>Taraxacum officinale</i> *	common dandelion
<i>Tetradymia comosa</i>	hairy horsebrush

Scientific Name	Common Name
<i>Tragopogon porrifolius</i> *	oyster plant
<i>Uropappus lindleyi</i>	silver puffs
<i>Viguiera laciniata</i>	San Diego County viguiera
<i>Wyethia ovata</i>	southern mule's ear
BETULACEAE	BIRCH FAMILY
<i>Alnus rhombifolia</i>	white alder
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia menziesii</i>	common fiddleneck
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher's fiddleneck
<i>Cryptantha</i> sp.	cryptantha
<i>Cryptantha barbigera</i>	bearded cryptantha
<i>Cryptantha intermedia</i>	nievitas cryptantha
<i>Cryptantha micrantha</i>	purple-root cryptantha
<i>Pectocarya linearis</i> ssp. <i>ferocula</i>	slender pectocarya
<i>Pectocarya pencillata</i>	winged pectocarya
<i>Plagiobothrys collinus</i>	popcornflower
<i>Plagiobothrys</i> sp.	popcornflower
BRASSICACEAE	MUSTARD FAMILY
<i>Boechera sparsiflora</i>	rock-cress
<i>Hirschfeldia incana</i> *	shortpod mustard
<i>Lepidium nitidum</i>	shining peppergrass
<i>Lepidium</i> sp.	peppergrass
<i>Lobularia maritima</i> *	sweet-alyssum
<i>Raphanus sativus</i> *	radish
<i>Rorippa nasturtium-aquaticum</i>	water-cress
<i>Sisymbrium altissimum</i> *	tumble mustard
<i>Sisymbrium irio</i> *	London rocket
<i>Sisymbrium orientale</i> *	hare's ear cabbage
<i>Thysanocarpus curvipes</i>	hairy fringe pod
<i>Thysanocarpus laciniatus</i>	narrow-leaved fringe pod
CACTACEAE	CACTUS FAMILY
<i>Opuntia ficus-indica</i> *	Indian-fig
<i>Opuntia littoralis</i>	coast prickly-pear
<i>Opuntia phaeacantha</i>	desert prickly-pear
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle
CARYOPHYLLACEAE	PINK FAMILY
<i>Cerastium glomeratum</i> *	mouse-ear chickweed
<i>Loeflingia squarrosa</i>	California loeflingia
<i>Polycarpon</i> sp.	polycarp
<i>Polycarpon tetraphyllum</i> *	four-leaved allseed

Scientific Name	Common Name
<i>Silene antirrhina</i>	snapdragon catchfly
<i>Silene gallica</i> *	common catchfly
<i>Silene laciniata</i> ssp. <i>laciniata</i>	southern pink
<i>Silene multinervia</i>	many-nerve catchfly
<i>Spergularia bocconi</i> *	Boccone's sandspurrey
<i>Stellaria media</i> *	common chickweed
CISTACEAE	ROCK-ROSE FAMILY
<i>Helianthemum scoparium</i>	peak rush-rose
CONVOLVULACEAE	MORNING-GLORY FAMILY
<i>Calystegia macrostegia</i>	western bindweed
<i>Cuscuta californica</i>	California dodder
<i>Cuscuta</i> sp.	dodder
CRASSULACEAE	STONECROP FAMILY
<i>Crassula connata</i>	pygmy-weed
<i>Dudleya edulis</i>	ladies-fingers
<i>Dudleya lanceolata</i>	lance-leaved dudleya
<i>Dudleya pulverulenta</i>	chalk dudleya
CUCURBITACEAE	GOURD FAMILY
<i>Marah macrocarpus</i> var. <i>macrocarpus</i>	manroot, wild-cucumber
DATISCEAE	DATISCA FAMILY
<i>Datisca glomerata</i>	durango root
ERICACEAE	HEATH FAMILY
<i>Arctostaphylos glandulosa</i> ssp. <i>adamsii</i>	Laguna Mountain manzanita
<i>Arctostaphylos glandulosa</i> ssp. <i>zacaensis</i>	Zaca Lake manzanita
<i>Arctostaphylos pungens</i>	point leaf manzanita
<i>Xylococcus bicolor</i>	mission manzanita
EUPHORBIACEAE	SPURGE FAMILY
<i>Chamaesyce albomarginata</i>	white-margin sandmat
<i>Chamaesyce maculata</i> *	spotted spurge
<i>Croton setigerus</i>	doveweed
FABACEAE	LEGUME FAMILY
<i>Acacia longifolia</i> *	Sydney golden wattle
<i>Astragalus gambelianus</i>	Gambell's dwarf locoweed
<i>Astragalus oocarpus</i>	San Diego milkvetch
<i>Lathyrus vestitus</i>	wild sweet pea
<i>Lathyrus vestitus</i> var. <i>alefeldii</i>	San Diego sweet pea
<i>Lotus argophyllus</i>	silver-leaf lotus
<i>Lotus hamatus</i>	grab lotus
<i>Lotus humistratus</i>	foothill deervetch
<i>Lotus purshianus</i> var. <i>purshianus</i>	Spanish-clover
<i>Lotus salsuginosus</i>	lotus

Scientific Name	Common Name
<i>Lotus scoparius</i> var. <i>brevialatus</i>	short-wing deerweed
<i>Lotus scoparius</i> var. <i>scoparius</i>	coastal deerweed
<i>Lotus strigosus</i>	strigose lotus
<i>Lupinus bicolor</i>	miniature lupine
<i>Lupinus concinnus</i>	bajada lupine
<i>Lupinus hirsutissimus</i>	stinging lupine
<i>Lupinus sparsiflorus</i>	Coulter's lupine
<i>Lupinus truncatus</i>	collar lupine
<i>Medicago polymorpha</i> *	California burclover
<i>Melilotus indicus</i> *	Indian sweetclover
<i>Robinia pseudoacacia</i>	black locust
<i>Trifolium albopurpureum</i>	rancheria clover
<i>Trifolium albopurpureum</i> var. <i>albopurpureum</i>	rancheria clover
<i>Trifolium bifidum</i> var. <i>decipiens</i>	pinole clover
<i>Trifolium ciliolatum</i>	tree clover
<i>Trifolium depauperatum</i>	bladder clover
<i>Trifolium hirtum</i> *	rose clover
<i>Trifolium microcephalum</i>	maiden clover
<i>Trifolium obtusiflorum</i>	creek clover
<i>Trifolium</i> sp.	clover
<i>Trifolium variegatum</i>	white tip clover
<i>Trifolium willdenovii</i>	valley clover
<i>Vicia americana</i> var. <i>americana</i>	American vetch
<i>Vicia ludoviciana</i> var. <i>ludoviciana</i>	deer pea vetch
<i>Vicia</i> sp.	vetch
<i>Vicia villosa</i> *	winter vetch
FAGACEAE	OAK FAMILY
<i>Quercus X acutidens</i>	oak hybrid
<i>Quercus agrifolia</i>	coast live oak, encina
<i>Quercus agrifolia</i> var. <i>oxyadenia</i>	interior coast live oak
<i>Quercus berberidifolia</i>	scrub oak
<i>Quercus engelmannii</i>	Engelmann's oak
GENTIANACEAE	GENTIAN FAMILY
<i>Centaurium venustum</i>	canchalagua
GERANIACEAE	GERANIUM FAMILY
<i>Erodium botrys</i> *	long-beak filaree
<i>Erodium brachycarpum</i> *	short-beak filaree
<i>Erodium cicutarium</i> *	red-stem filaree
GROSSULARIACEAE	GOOSEBERRY FAMILY
<i>Ribes indecorum</i>	white-flower currant
HELIOTROPACEAE	HELIOTROPE FAMILY

Scientific Name	Common Name
<i>Heliotropium curassavicum</i>	salt heliotrope
HYDROPHYLLACEAE	WATERLEAF FAMILY
<i>Emmenanthe penduliflora</i>	whispering bells
<i>Eriodictyon crassifolium</i>	thick-leaved yerba santa
<i>Eucrypta chrysanthemifolia</i>	eucrypta
<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>	common eucrypta
<i>Nemophila menziesii</i>	baby blue eyes
<i>Nemophila menziesii</i> var. <i>integrifolia</i>	small-flower baby blue eyes
<i>Phacelia cicutaria</i> var. <i>hispida</i>	caterpillar phacelia
<i>Phacelia distans</i>	wild-heliotrope
<i>Phacelia parryi</i>	Parry's phacelia
<i>Phacelia ramosissima</i> var. <i>latifolia</i>	branching phacelia
<i>Phacelia ramosissima</i>	phacelia
LAMIACEAE	MINT FAMILY
<i>Lamium amplexicaule</i> *	henbit
<i>Marrubium vulgare</i> *	horehound
<i>Salvia apiana</i>	white sage
<i>Salvia clevelandii</i>	fragrant sage
<i>Salvia columbariae</i>	chia
<i>Salvia mellifera</i>	black sage
<i>Scutellaria tuberosa</i>	Danny's skullcap
<i>Stachys ajugoides</i> var. <i>rigida</i>	rigid hedge-nettle
<i>Trichostema lanatum</i>	woolly bluecurls
<i>Trichostema lanceolatum</i>	vinegar weed
<i>Trichostema parishii</i>	mountain bluecurls
LYTHRACEAE	LOOSESTRIFE FAMILY
<i>Lythrum hyssopifolia</i> *	grass poly
MALVACEAE	MALLOW FAMILY
<i>Alcea rosea</i> *	hollychoke
<i>Brachychiton populneum</i> *	bottle tree
<i>Malacothamnus densiflorus</i>	many-flowered mallow
<i>Malacothamnus fasciculatus</i>	chaparral bushmallow
<i>Malva parviflora</i> *	cheeseweed
<i>Sidalcea malviflora</i> ssp. <i>sparsifolia</i>	checker-bloom
MYRTACEAE	MYRTLE FAMILY
<i>Callistemon citrinus</i>	crimson bottlebrush
<i>Eucalyptus globulus</i> *	blue gum
NYCTAGINACEAE	FOUR O'CLOCK FAMILY
<i>Mirabilis laevis</i>	wishbone bush
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	coastal wishbone plant
OLEACEAE	OLIVE FAMILY

Scientific Name	Common Name
<i>Olea europaea</i> *	olive
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Camissonia bistorta</i>	California sun cup
<i>Camissonia californica</i>	false-mustard
<i>Camissonia hirtella</i>	field sun cup
<i>Camissonia strigulosa</i>	sandysoil sun cup
<i>Clarkia delicata</i>	delicate/Campo clarkia
<i>Clarkia epilobioides</i>	canyon godetia
<i>Clarkia purpurea</i>	winecup clarkia
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	four-spot clarkia
<i>Clarkia rhomboidea</i>	diamond clarkia
<i>Epilobium canum</i> ssp. <i>canum</i>	California fuschia, zauschneria
<i>Epilobium cilatum</i> ssp. <i>ciliatum</i>	willow herb
OROBANCHACEAE	BROOM RAPE FAMILY
<i>Castilleja densiflora</i> ssp. <i>gracilis</i>	Parish's owl's-clover
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's-clover
<i>Castilleja foliolosa</i>	woolly Indian paintbrush
<i>Castilleja minor</i> ssp. <i>spiralis</i>	California thread-torch
<i>Cordylanthus rigidus</i> ssp. <i>setigerus</i>	dark-tip bird's beak
OXALIDACEAE	OXALIS FAMILY
<i>Oxalis albicans</i> ssp. <i>californica</i>	California wood-sorrel
<i>Oxalis</i> sp.	sorrel
PAEONIACEAE	PEONY FAMILY
<i>Paeonia californica</i>	California peony
PAPAVERACEAE	POPPY FAMILY
<i>Dicentra chrysantha</i>	golden ear-drops
<i>Eschscholzia californica</i>	California poppy
PHRYMACEAE	HOPSEED FAMILY
<i>Mimulus aurantiacus</i>	orange bush monkey flower
<i>Mimulus aurantiacus</i> var. <i>pubescens</i> X var. <i>puniceus</i>	San Diego monkey flower
<i>Mimulus brevipes</i>	slope semaphore
<i>Mimulus fremontii</i>	Fremont monkey flower
<i>Mimulus palmeri</i>	Palmer's monkey flower
<i>Mimulus guttatus</i>	seep monkey flower
PICRONDENDRACEAE	PICRODENDRON FAMILY
<i>Tetracoccus dioicus</i>	Parry's tetracoccus
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Antirrhinum coulterianum</i>	Coulter's snapdragon
<i>Antirrhinum nuttallianum</i>	Nuttall's snapdragon
<i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i>	Nuttall's snapdragon

Scientific Name	Common Name
<i>Collinsia concolor</i>	southern Chinese houses
<i>Collinsia heterophylla</i>	Chinese houses
<i>Keckiella antirrhinoides</i>	chaparral beard-tongue
<i>Keckiella cordifolia</i>	climbing bush penstemon
<i>Linaria canadensis</i>	blue toadflax
<i>Penstemon centranthifolius</i>	scarlet bugler
<i>Penstemon spectabilis</i> ssp. <i>spectabilis</i>	showy penstemon
<i>Penstemon spectabilis</i>	royal penstemon
<i>Plantago lanceolata</i> *	English plantain, rib-grass
<i>Plantago patagonica</i>	woolly plantain
PLATANACEAE	SYCAMORE FAMILY
<i>Platanus racemosa</i>	western sycamore
POLEMONIACEAE	PHLOX FAMILY
<i>Allophyllum gilioides</i>	straggling false-gilia
<i>Eriastrum filifolium</i>	thread-leaf woolly-star
<i>Eriastrum sapphirinum</i> ssp. <i>sapphirinum</i>	sapphire woolly-star
<i>Gilia capitata</i> ssp. <i>abrotanifolia</i>	ball gilia
<i>Gilia diegensis</i>	San Diego gilia
<i>Gilia ochroleuca</i> ssp. <i>exilis</i>	volcanic gilia
<i>Leptosiphon liniflorus</i>	Great Basin linanthus
<i>Leptosiphon parviflorus</i>	coast baby-star
<i>Linanthus dianthiflorus</i>	farinose ground-pink
<i>Navarretia atractyloides</i>	holly-leaf skunkweed
<i>Navarretia capillaris</i>	miniature gilia
<i>Navarretia hamata</i> ssp. <i>hamata</i>	hooked skunkweed
<i>Navarretia hamata</i>	hooked pincushion plant
<i>Navarretia</i> sp.	navarretia
<i>Saltugilia australis</i>	southern gilia
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Chorizanthe fimbriata</i>	fringed spineflower
<i>Chorizanthe fimbriata</i> var. <i>fimbriata</i>	fringed spineflower
<i>Chorizanthe procumbens</i>	prostrate spineflower
<i>Chorizanthe staticoides</i>	turkish rugging
<i>Eriogonum davidsonii</i>	skeleton weed
<i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	coast California buckwheat
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	inland California buckwheat
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	mountain California buckwheat
<i>Eriogonum gracile</i>	slender buckwheat
<i>Polygonum arenastrum</i> *	common knotweed
<i>Polygonum lapathifolium</i>	willow-weed
<i>Polygonum</i> sp.	knotweed

Scientific Name	Common Name
<i>Pterostegia drymarioides</i>	granny's hairnet
<i>Rumex conglomeratus*</i>	whorled dock
<i>Rumex crispus*</i>	curly dock
<i>Rumex hymenosepalus</i>	wild rhubarb
<i>Rumex salicifolius</i>	willow dock
<i>Rumex salicifolius</i> var. <i>salicifolius</i>	willow dock
PORTULACACEAE	PURSLANE FAMILY
<i>Calandrinia ciliata</i>	red maids
<i>Claytonia exigua</i> ssp. <i>exigua</i>	serpentine montia
<i>Claytonia parviflora</i>	miner's-lettuce
<i>Claytonia perfoliata</i> ssp. <i>mexicana</i>	Mexican miner's-lettuce
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	miner's-lettuce
<i>Portulaca oleracea*</i>	common purslane
PRIMULACEAE	PRIMROSE FAMILY
<i>Anagallis arvensis*</i>	scarlet pimpernel
<i>Centunculus minimis</i>	common chaffweed
PROTEACEAE	PROTEA FAMILY
<i>Grevillea robusta*</i>	silk oak
RANUNCULACEAE	BUTTERCUP FAMILY
<i>Clematis pauciflora</i>	ropevine clematis
<i>Delphinium cardinale</i>	scarlet larkspur
<i>Delphinium parryi</i> ssp. <i>parryi</i>	Parry's Larkspur
<i>Ranunculus aquatilis</i> var. <i>capillaceus</i>	hair-leaf water buttercup
<i>Ranunculus californicus</i>	California buttercup
<i>Thalictrum fendleri</i> var. <i>polycarpum</i>	Fendler's meadow-rue
RHAMNACEAE	BUCKTHORN FAMILY
<i>Ceanothus crassifolius</i>	thick-leaf-lilac
<i>Ceanothus leucodermis</i>	chaparral whitethorn
<i>Rhamnus ilicifolia</i>	holly-leaf redberry
<i>Rhamnus pilosa</i>	hairy-leaf redberry, buckthorn
ROSACEAE	ROSE FAMILY
<i>Adenostoma fasciculatum</i>	chamise
<i>Cercocarpus betuloides</i>	birch-leaf mountain-mahogany
<i>Heteromeles arbutifolia</i>	toyon
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	holly-leaf cherry
<i>Prunus virginiana</i> var. <i>demissa</i>	western choke cherry
RUBIACEAE	MADDER FAMILY
<i>Galium angustifolium</i>	narrow-leaved bedstraw
<i>Galium aparine</i>	goose grass
<i>Galium nuttallii</i> ssp. <i>nuttallii</i>	San Diego bedstraw
<i>Galium parisiense</i>	wall bedstraw

Scientific Name	Common Name
<i>Galium porrigens</i> var. <i>porrigens</i>	climbing/oval-leaf bedstraw
SALICACEAE	WILLOW FAMILY
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	black cottonwood
<i>Populus fremontii</i>	western cottonwood
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix laevigata</i>	red willow
<i>Salix lasiolepis</i>	arroyo willow
SAXIFRAGACEAE	SAXIFRAGE FAMILY
<i>Lithophragma affine</i>	woodland star
SCROPHULARIACEAE	FIGWORT FAMILY
<i>Myoporum laetum</i> *	myoporum
<i>Scrophularia californica</i> ssp. <i>floribunda</i>	California bee plant
SOLANACEAE	NIGHTSHADE FAMILY
<i>Datura wrightii</i> *	western jimson weed
<i>Nicotiana glauca</i> *	tree tobacco
<i>Solanum americanum</i>	small-flowered nightshade
<i>Solanum douglasii</i>	Douglas' nightshade
<i>Solanum parishii</i>	Parish's nightshade
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix ramosissima</i> *	Mediterranean tamarisk
URTICACEAE	NETTLE FAMILY
<i>Parietaria hespera</i> var. <i>hespera</i>	western pellitory
<i>Urtica dioica</i> ssp. <i>holosericea</i>	hoary nettle
<i>Urtica urens</i> *	dwarf nettle
VERBENACEAE	VERVAIN FAMILY
<i>Lantana montevidensis</i> *	trailing lantana
<i>Lantana</i> sp.*	lantana
VIOLACEAE	VIOLET FAMILY
<i>Viola douglasii</i>	Douglas's violet
<i>Viola pedunculata</i>	johnny-jump-up
ZYGOPHYLLACEAE	CALTROP FAMILY
<i>Tribulus terrestris</i> *	puncture vine

Note: * Indicates Non-Native Species

APPENDIX D – CNDDDB SENSITIVE PLANT SPECIES OCCURRENCE TABLE



Table 1
Criteria for Evaluating Sensitive Plant Species Potential for Occurrence (PFO)

PFO	Criteria
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the project site.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 3 miles) of the project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the project site (approximately 3 miles) and marginal habitat exists on the project site, or the habitat requirements or environmental conditions associated with the species occur within the project site, but no historical records exist within 5 miles of the project site.
High:	Both a historical record exists of the species within the project site or its immediate vicinity (approximately 3 miles), and the habitat requirements and environmental conditions associated with the species occur within the project site.
Present:	Species was detected within the project site at the time of the survey.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S2 G5T3T4 Not Covered Sensitive	This species favors sandy soils in chaparral, coastal scrub, and desert dune habitats. Elevations: 250 - 5,250 feet (75 - 1,600 m) amsl.	Absent Suitable habitat for this species is present within the ROW. No historical occurrences of this species have been recorded within 3 miles of the ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	THR END 1B.1 S2 G2 Covered Sensitive	This species is found in clay, soils in openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevations: 30- 3,150 feet (9- 960 m) amsl.	Absent Suitable habitat is present within the ROW and historical occurrences of this species have been recorded within 3 miles of the TL 637 ROW near poles P36, P37, and P35. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Allium munzii</i> Munz's onion	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END THR 1B.1 S1 G1 Not Covered Sensitive	This species favors mesic, clay soils in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grassland habitats. Elevations: 975-3,510 feet (297-1,070 m) amsl.	Absent. No suitable habitat for this species is present within the ROW and no historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Ambrosia pumila</i> San Diego ambrosia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END None 1B.1 S1 G1 Covered Sensitive	This species favors sandy loam or clay, often in disturbed alkaline soils in chaparral coastal scrub, valley and foothill grassland, and vernal pool habitats. Elevations: 65-1,360 feet (20- 415 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Arctostaphylos otayensis</i> Otay manzanita	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.1 G2 Not Covered Sensitive	This species favors metavolcanic soils in chaparral and cismontane woodland. Elevations: 900-5,600 feet (275-1,700 m) amsl	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Astragalus deanei</i> Dean's milk-vetch	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S2.1 G2 Not Covered Sensitive	This species often grows in chaparral, cismontane woodland, coastal scrub, and riparian forest. Elevations: 250-2,200 feet (76-670 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Astragalus douglasii</i> var. <i>perstrictus</i> Jacumba milk-vetch	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G5T2 Not Covered Sensitive	This species grows on rocky soils of chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, and valley and foothill grassland. Elevations: 3,000-4,500 feet (914-1,371 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Astragalus oocarpus</i> San Diego milk-vetch	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G2 Not Covered Sensitive	This species is found in openings in chaparral and cismontane woodland. Elevations: 1,000-5,000 feet (304-1,524 m) amsl.	Present A total of 83 individuals were observed within the TL 637 ROW near pole P107 during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Baccharis vanessae</i> Encinitas baccharis	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	THR END 1B.1 S1 G1 Covered Sensitive	This species is found in sandstone soils in maritime chaparral and cismontane woodland. Elevations: 200-2,300 feet (60-720 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Berberis nevini</i> Nevin's barberry	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END END 1B.1 S1 G1 Not Covered Sensitive	This species often grows in sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Elevations: 900-2,700 feet (274- 825 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Bloomeria clevelandii</i> San Diego goldenstar	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S2 G2 Not covered Sensitive	This species often grows in clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. Elevations: 160-1,525 feet (50-465 m) amsl.	Absent. Outside the elevation range found within the TL ROW. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	THR END 1B.1 S1 G1 Covered Sensitive	This species often grows in clay soils within openings in chaparral, cismontane woodland, coastal scrub, playa, valley and foothill grassland, and vernal pool habitats. Elevations: 80-3,675 feet (25-1,120 m) amsl.	Low. Suitable habitat for this species is present within the TL ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S1 G1 Covered Sensitive	This species often grows in the openings of chaparral, cismontane woodland, coastal scrub, playas, and valley and foothill grassland. Elevations: 100-5,550 feet (30-1,676 m) amsl.	Present. A total of 1,020 individuals was observed within the TL 637 ROW near poles D26 and D28 during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Calochortus dunnii</i> Dunn's mariposa lily	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None RARE 1B.2 S2.1 G2 Not Covered Sensitive	This species often grows in gabbroic or metavolcanic soils and rocky, closed-cone, coniferous forest, chaparral, and valley and foothill grassland. Elevations: 600-6,000 feet (185-1,830 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Ceanothus cyaneus</i> Lakeside ceanothus	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G2 Not Covered Sensitive	This species often grows in sandy or rocky openings of closed-cone coniferous forests and chaparral habitats. Elevations: 770 -2,550 feet (235-777 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Chamaesyce platysperma</i> flat-seeded spurge	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S1 G3 Not covered Sensitive	This species often grows in sandy soils within Sonoran desert dune habitat. Elevations: 200-330 feet (60-100 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Chorizanthe orcuttiana</i> Orcutt's spineflower	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END END 1B.1 S1 G1 Not Covered Sensitive	This species grows in sandy soils within openings of closed-cone coniferous forest, maritime chaparral, and coastal scrub habitats.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Chorizanthe polygonoides longispina</i> var. long-Spined Spineflower	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S3 G5T3 Not Covered Sensitive	This species often grows in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevations: 100-5,020 feet (30-1,530 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Chorizanthe xanti</i> var. <i>leucotheca</i> white-bracted spineflower	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2 G4T2 Not Covered Sensitive	This species often grows in sandy or gravelly alluvial fan soils within coastal scrub, Mojavean desert scrub, and pinyon and juniper woodland habitats. Elevations: 980-3,940 feet (300-1,200 m) amsl.	Absent. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Clarkia delicata</i> delicate clarkia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G2 Not Covered	This species often grows in gabbroic soils in chaparral and cismontane woodland. Elevations: 770-3,280 feet (234-999 m) amsl.	Present A total of 2,830 individuals was observed within the TL 637 ROW near poles P90, P91, P108, and P174 during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Cryptantha gander</i> Gander's cryptantha	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S1 G1G2 Not Covered Sensitive	This species often grows in sandy soils of Sonoran desert dune habitat. Elevations: 520-1,315 feet (160-1,315 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Cylindropuntia munzii</i> Munz's cholla	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S1 G3 Not Covered Sensitive	This species often grows in sandy soils of Sonoran desert scrub habitat. Elevations: 490-1,970 feet (150-600 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Dienandra conjugens</i> Otay tarplant	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	THR END 1B.1 S1 G1 Not Covered Sensitive	This species grows on clay soils within coastal scrub, and valley and foothill grassland habitats. Elevations: 80-980 feet (25-300 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Dienandra floribunda</i> Tecate tarplant	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G3 Not Covered Sensitive	This species grows in chaparral and coastal scrub habitats. Elevations: 230-4,000 feet (70-1,219 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i> Cuyamaca larkspur	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None RARE 1B.2 S2.1 G4T2 Not Covered Sensitive	This species often grows in mesic soils of lower montane coniferous forest, meadows and seeps, and vernal pools. Elevations: 4,000-5,350 feet (1,219-1,630 m) amsl.	Absent. Outside elevation range. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Dudleya multicaulis</i> many-stemmed dudleya	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2 G2 Not Covered Sensitive	This species grows in clay soils within chaparral, coastal scrub, valley and foothill grassland habitats. Elevations: 50-2,600 feet (15-790 m) amsl.	Low. Suitable habitat for this species is present within the TL ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Dudleya variegata</i> variegated dudleya	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G2 Not Covered Sensitive	This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats. Elevations: 10-1,900 feet (3-580 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Eriastrum harwoodii</i> Harwood's eriastrum	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S3 G3 Not Covered Sensitive	This species is found in sandy soils within desert dune habitats. Elevations: 410-3,000 feet (125-915 m) amsl.	Absent. No suitable habitat for this species is present within the ROW, and historical occurrences of this species have not been recorded within 3 miles of the TL ROW.
<i>Ericameria palmeri</i> var. <i>palmeri</i> Palmer's goldenbush	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S2 G4T2T3 Not Covered Sensitive	This species is found in mesic soils within chaparral and coastal scrub habitats. Elevations: 98-1,970 feet (30-600 m) amsl.	Absent. Outside the elevation found within the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END END 1B.1 S1 G5T1 Covered	This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. Elevations: 65-2,034 feet (20-620 m) amsl.	Absent. Outside the elevation found within the TL ROW.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Fremontodendron mexicanum</i> Mexican flannelbush	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END RARE 1B.1 S1 G1 Not Covered Sensitive	This species often grows in gabbroic, metavolcanic, or serpentinite soils in closed-cone coniferous forest, chaparral, and cismontane woodland habitats. Elevations: 100-8,038 feet (30-2,449 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Grindelia hallii</i> San Diego gumplant	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G2 Not Covered	This species is found in chaparral, lower montane coniferous forests, meadows and seeps, and valley and foothill grassland habitats. Elevations: 607- 7,525 feet (185- 2,300 m) amsl.	Moderate Potential Suitable habitat for this species is present within the ROW; historical occurrences of this species have been recorded within 3 miles of the ROW.
<i>Hazardia orcuttii</i> Orcutt's hazardia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	SC THR 1B.1 S1 G1 Not Covered Sensitive	This species grows in clay soils in maritime chaparral, coastal scrub habitats. Elevations: 260-280 feet (80-85 m) amsl.	Absent. Outside the elevation found within the TL ROW. Suitable habitat for this species is present within the ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Hesperocyparis forbesii</i> Tecate cypress	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.1 S1 G1 Not Covered Sensitive	This species often grows in clay, gabbroic, or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Elevations: 840-4,900 feet (256-1,493 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Heuchera brevistaminea</i> Laguna Mountain alumroot	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2.3 G2 Not Covered Sensitive	This species grows in rocky soils in broadleaved upland forests, chaparral, cismontane woodlands, and riparian forests. Elevations: 4,495-6,562 feet (1,370 -2,000 m) amsl.	Absent. Outside the elevation found within the TL ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Horkelia truncata</i> Ramona horkelia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2.3 G3 Not Covered Sensitive	This species grows in clay and gabbro soils in chaparral and cismontane woodland. Elevations: 1,312 -4,265 feet (400- 1,300 m) amsl.	Absent. Suitable habitat for this species is present within the ROW, and historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Lepechinia ganderi</i> Gander's pitcher sage	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2.2 G2 Not Covered Sensitive	This species grows in gabroic or metavolcanic soils in closed-cone coniferous forest and chaparral, coastal scrub, and valley and foothill grassland habitats. Elevations: 1,000-3,300 feet (305-1,005 m) amsl.	Low. Suitable habitat for this species is present within the TL ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Lepidium flavum</i> var. <i>felipense</i> Borrego Valley pepper-grass	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S1.2 G5T1 Not Covered Sensitive	This species grows in sandy soils within pinyon and juniper woodland, and Sonoran desert scrub habitats. Elevations: 1,500 -2,750 feet (455- 840 m) amsl.	Absent. Outside the elevation found within the TL ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S3 G5T3 Not Covered Sensitive	This species grows in openings in coastal sage scrub and chaparral. Elevations: 1,600 feet (500 m) amsl.	Absent. Outside the elevation found within the TL ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Limnanthes gracilis</i> ssp. <i>parishii</i> Parish's meadowfoam	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None END 1B.2 S2S3 G3T2T3 Not Covered Sensitive	This species often grows in mesic soils in lower montane coniferous forest, meadows and seeps, and vernal pool habitats. Elevations: 2,000-6,600 feet (609-2,011 m) amsl.	Absent. No suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Linanthus maculatus</i> Little San Bernardino Mountains linanthus	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2 G2 Not Covered Sensitive	This species in grows sandy soils within desert dune, Joshua tree woodland Mojavean desert scrub and Sonoran desert scrub habitats. Elevations: 640- 6,800 feet (195- 2075 m) amsl.	Absent. No suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Linanthus orcuttii</i> Orcutt's linanthus	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2 G4 Not Covered Sensitive	This species often grows in the openings of chaparral, lower montane coniferous forest, and pinyon and juniper woodland habitats. Elevations: 3,000-7,037 feet (914 -2,144 m) amsl.	Absent. No suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Lupinus excubitus</i> var. <i>medius</i> Mountain Springs bush lupine	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2 G4T2T3 Not Covered Sensitive	This species grows on dry, sandy, gently sloping canyon washes, sandy soil pockets, and flats in steeper slopes and drainages in pinyon and juniper woodland, as well as Sonoran desert scrub Elevations: 1,394 -4,495 feet (125-1,370m) amsl.	Absent. No suitable habitat for this species is present within the TL ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G4T2 Not Covered	This species often grows in chaparral and cismontane woodland. Elevations: 580-5,170 feet (176-1,575 m) amsl.	Absent. Suitable habitat for this species is present within the ROW. Historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Monardella stoneana</i> Jennifer's monardella	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S1.2 G1 Not Covered Sensitive	This species grows in rocky intermittent streambeds within closed-cone coniferous forest, chaparral coastal scrub, and riparian scrub habitats. Elevations: 30-2,600 feet (10- 90 m) amsl.	Absent. No suitable habitat for this species is present within the TL ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Navarretia fossalis</i> spreading navarretia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	THR None 1B.1 S1 G1 Covered	This species can be found in chenopod scrub, freshwater marshes and swamps, playas, and vernal pools. Elevations: 98-2,149 feet (30-655 m) amsl.	Absent. Outside of the elevation range found within the TL ROW.
<i>Nolina interrata</i> Dehesa nolina	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None END 1B.1 S2 G2 Not Covered Sensitive	This species typically grows on rocky hillsides or ravines on ultramafic soils in chaparral habitats. Elevations: 591-2,805 feet (180-855 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Orcuttia californica</i> California orcutt grass	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END END 1B.1 S1 G1 Covered Sensitive	This species is found in mud flats in vernal pools. Elevations: 50-2,200 feet (15-670 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Packera gander</i> Gander's ragwort	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None RARE 1B.2 S2.2 G2 Not Covered Sensitive	This species often grows in gabbro soils of chaparral, especially after a recent burn. Elevations: 1,300-4,000 feet (396-1,219 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Pogogyne nudiuscula</i> Otay mesa mint	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	END END 1B.1 S1 G1 Not Covered Sensitive	This species often grows in clay soils within vernal pool habitats. Elevations: 295-820 feet (90-250 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Ribes canthariforme</i> Moreno currant	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S1.3 G1 Not Covered Sensitive	This species often grows in chaparral and riparian scrub. Elevations: 1,113-3,937 feet (339-1,199 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Scutellaria bolander ssp. austromontana</i> southern skullcap	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2 G4T2 Not Covered Sensitive	This species often grows in mesic soils in chaparral, cismontane woodland, and lower montane coniferous forest. Elevations: 1,400-6,560 feet (426-1,999 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Stemodia durantifolia</i> purple stemodia	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 2.1 S2.1? G5 Not Covered	This species can be found in Sonoran desert scrub often on mesic, sandy soils. Elevations: 591-984 feet (180-300 m) amsl.	Absent. Outside the elevation found within the TL ROW. No suitable habitat for this species is present within the ROW. No historical occurrences of this species have been recorded within 3 miles of the TL ROW.
<i>Streptanthus campestris</i> southern jewelflower	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.3 S2.3 G2 Not Covered Sensitive	This species often grows in rocky soils of chaparral, lower montane coniferous forest, and pinyon and juniper woodland. Elevations: 2,950-7,550 feet (899-2,301 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status		Habitat and Habit (Elevation)	Potential to Occur Onsite
<i>Symphytotrichum defoliatum</i> San Bernardino aster	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2 G2 Not Covered Sensitive	This species often grows in vernal mesic soils in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland, and near ditches, streams, and springs. Elevations: 0-6,700 feet (0-2,042 m) amsl.	Present A total of 100 individuals were observed within TL 637 ROW near pole P106 during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Tetracoccus dioicus</i> Parry's tetracoccus	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.2 G3 Covered Sensitive	This species often grows in chaparral and coastal scrub. Elevations: 540-3,280 feet (164-999 m) amsl.	Present A total of 181 individuals were observed within the TL 637 ROW near poles P48, P50, and D46 during protocol-level focused plant surveys conducted during the 2010 blooming period.
<i>Thermopsis californica</i> var. <i>semota</i> velvety false-lupine	FED: STATE: CRPR: S-Rank: G-Rank: NCCP: USFS: BLM:	None None 1B.2 S2.1 G3T2 Not Covered	This species often grows in cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Elevations: 3,280 -6,140 feet (999-1,871 m) amsl.	Absent. Suitable habitat for this species is present within the ROW; however, no historical occurrences of this species have been recorded within 3 miles of the TL ROW. Not observed during protocol-level focused plant surveys conducted during the 2010 blooming period.
Federal designations (Federal Endangered Species Act, USFWS):				
	END: THR: PTH: CAN: SC	Federal-listed, endangered. Federal-listed, threatened. Federal-listed, proposed-threatened Candidate species. Species of concern		
State designations (California Endangered Species Act, CDFG):				
	END: THR: RARE:	State-listed, endangered. State-listed, threatened. State-listed as rare (Listed "Rare" animals have been re-designated as threatened, but Rare plants have retained the Rare designation.)		
California Native Plant Society , California Rare Plant Rank)(CNPS) (CRPR) designations (Note: According to CNPS [Skinner and Pavlik 1994], plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.):				

Table 2
CNDDDB Sensitive Plant Species Occurrence Table

Scientific Name/ Common Name	Status	Habitat and Habit (Elevation)	Potential to Occur Onsite
List 1A:	Plants presumed extinct in California.		
List 1B:	Plants rare and endangered in California and throughout their range.		
List 2:	Plants rare, threatened, or endangered in California but more common elsewhere in their range.		
List 3:	Plants about which we need more information; a review list.		
List 4:	Plants of limited distribution; a watch list.		
List Extension 0.1:	Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).		
List Extension 0.2:	Fairly endangered in California (20-80% occurrences threatened).		
List Extension 0.3:	Not very endangered in California (<20% of occurrences threatened).		
California Natural Diversity Database (CNDDDB) Global (G) and State (S) ranking designations:			
G1:	Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.		
G2:	6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.		
G3:	21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.		
G4:	Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; (i.e., there is some threat, or somewhat narrow habitat).		
G5:	Population or stand demonstrably secure to ineradicable due to being commonly found in the world.		
GH:	All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists (SH = All California sites are historical).		
GX:	All sites are extirpated; this element is extinct in the wild (SX = All California sites are extirpated).		
GXC:	Extinct in the wild; exists in cultivation.		
G1Q:	The element is very rare, but there are taxonomic questions associated with it.		
T:	Applies to a subspecies or variety.		
S1:	Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres.		
S2:	6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.		
S3:	21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.		
S4:	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. No threat to rank.		
S5:	Demonstrably secure to ineradicable in California. No threat to rank.		
Extension 0.1:	Very threatened.		
Extension 0.2:	Threatened.		
Extension 0.3:	No current threats known.		
Source: California Natural Diversity Data Base (CNDDDB 2012) and California Native Plant Society Electronic Inventory (CNPSEI 2012) for Ramona and Santa Ysabel California 7.5 minute USGS quadrangles.			

APPENDIX E – CNDDDB SENSITIVE WILDLIFE SPECIES OCCURRENCE TABLE



Table 1
Criteria for Evaluating Sensitive Wildlife Species Potential for Occurrence (PFO)

PFO	Criteria
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the project site.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 3 miles) of the project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the project site (approximately 3 miles) and marginal habitat exists on the project site, or the habitat requirements or environmental conditions associated with the species occur within the project site, but no historical records exist within 3 miles of the project site.
High:	Both a historical record exists of the species within the project site or its immediate vicinity (approximately 3 miles), and the habitat requirements and environmental conditions associated with the species occur within the project site.
Present:	Species was detected within the project site at the time of the survey.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
CLASS BRANCHIOPODA	BRANCHIOPODS			
BRANCHINECTIDAE	BRANCHINECTID BRINE SHRIMP			
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE NCCP-Covered	L	CNDDDB lists 11 records of occurrence within 3 miles of the TL ROW, the closest being approximately 1.3 miles away in a pool southeast of 7th and Telford streets in Ramona, California. In addition the project ROW contains suitable habitat to support this species.
CLASS INSECTA	INSECTS			
NYMPHALIDAE	BRUSH-FOOTED BUTTERFLIES			
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE , NCCP Covered	A	Although suitable habitat is present within the TL ROW, CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and no Quino checkerspot butterflies were found during focused surveys conducted on the ROW in 2010 (Chambers Group 2011e).
LYCAENIDAE	GOSSAMER-WINGED BUTTERFLIES			
<i>Lycaena hermes</i>	Hermes copper butterfly	FC , NCCP-Not Covered	A	CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and no suitable habitat for Hermes copper larvae was identified during a Hermes copper habitat assessment conducted in 2010 (Chambers Group 2011d).

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
HESPERIIDAE	SKIPPERS			
<i>Pyrgus ruralis lagunae</i>	Laguna Mountains skipper	FE, NCCP-Not Covered	A	The Laguna mountains skipper can be considered absent from the TL ROW. CNDDDB lists no records of occurrence within 3 miles of the TL ROW and no suitable habitat within the ROW.
CLASS OSTEICHTHYES	BONY FISH			
CYPRINIDAE	MINNOWS AND CARPS			
<i>Gila orcuttii</i>	arroyo chub	SSC, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat to support this species.
CLASS AMPHIBIA	AMPHIBIANS			
RANIDAE	TRUE FROGS			
<i>Rana muscosa</i>	mountain yellow-legged frog	FE, SSC, NCCP-Not Covered	A	CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and the ROW lacks suitable habitat to support this species.
SCAPHIOPODIDAE	SPADEFOOT TOADS			
<i>Spea [=Scaphiopus] hammondi</i>	western spadefoot	SSC, BLM Sensitive, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains fair to moderate quality habitat and vernal pools that may support breeding are present adjacent to the ROW.
BUFONIDAE	TRUE TOADS			
<i>Anaxyrus californicus</i>	arroyo toad	FE, SSC, NCCP-Covered	A	Although CNDDDB lists several records of occurrence and Critical Habitat areas are located within 3 miles of the TL ROW, no suitable breeding habitat is present within the ROW; and this species was not found during focused surveys conducted by Chambers Group in 2010. Pasture grazing and development has removed potential habitat for this species from the TL ROW.
SALAMANDRIDAE	NEWTS			

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Taricha torosa torosa</i>	coast range newt	SSC, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, low quality suitable habitat to support this species is present within the ROW.
PLETHODONTIDAE	LUNGLESS SALAMANDERS			
<i>Ensatina klauberi</i>	large-blotched salamander	SSC, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, habitat moderately suitable to support this species is present within the ROW.
CLASS REPTILIA	REPTILES			
EMYDIDAE	BOX AND WATER TURTLES			
<i>Emys marmorata</i> (<i>Actinemys marmorata pallida</i>)	southwestern pond turtle	SSC, BLM and USFS Sensitive, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains some low quality suitable habitat to support this species.
ANNIELLIDAE	LEGLESS LIZARDS			
<i>Anniella pulchra</i>	California legless lizard	SSC, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains habitat moderately suitable to support this species.
IGUANIDAE	IGUANID LIZARDS			
<i>Phrynosoma coronatum blainvillii</i>	coast (=San Diego) horned lizard	SSC, BLM and USFS Sensitive, NCCP-Covered	P	CNDDDB lists six records of occurrence for this species within 3 miles of the TL ROW, the ROW contains good quality habitat, and this species was observed on the TL 637 ROW near pole P116.
TEIIDAE	WHIPTAIL LIZARDS			
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	SSC, NCCP-Covered	H	CNDDDB lists four records of occurrence within 3 miles of the ROW, the closest occurrence being approximately 0.7 mile away, approximately 1.1 miles south of Ballena Valley at Highway 78, 6 miles east of Ramona. In addition, the TL 637 ROW contains good quality habitat to support this species.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
SCINCIDAE	SKINKS			
<i>Plestiodon</i> [= <i>Eumeces</i>] <i>skiltonianus</i> <i>interparietalis</i>	Coronado Island skink	SSC, BLM Sensitive, NCCP-Covered	P	CNDDDB lists a single record of occurrence for this species within 1 mile of the TL ROW, and this species was observed on the TL 637 ROW near pole R107. In addition, the TL ROW contains good quality suitable habitat to support this species.
VIPERIDAE	VIPERS			
<i>Crotalus ruber ruber</i>	northern red-diamond rattlesnake	SSC, NCCP-Covered	M	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains good quality suitable habitat.
BOIDAE	BOAS			
<i>Charina trivirgata roseofusca</i> (<i>Lichanura trivirgata roseofusca</i>)	coastal rosy boa	SA, USFS Sensitive, NCCP-Covered	P	CNDDDB records lists 2 records of occurrence for this species within 3 miles of the TL ROW, and the ROW contains good quality suitable habitat. In addition, this species was observed on the TL 637 ROW near poles P51 and P116.
COLUBRIDAE	COLUBRID SNAKES			
<i>Lampropeltis zonata pulchra</i>	San Diego mountain kingsnake	SSC, BLM and USFS Sensitive, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat.
<i>Diadophis punctatus similis</i>	San Diego ringneck snake	SA, USFS Sensitive, NCCP-Covered	M	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains good quality suitable habitat.
<i>Thamnophis hammondi</i>	two-striped garter snake	SSC, BLM and USFS Sensitive, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains moderate quality suitable habitat.
<i>Thamnophis sirtalis</i> ssp.	south coast garter snake	SSC, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains moderate quality suitable habitat.
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	SSC, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains moderate quality suitable habitat.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
CLASS AVES	BIRDS			
ACCIPITRIDAE	HAWKS			
<i>Aquila chrysaetos</i>	golden eagle (nesting and wintering)	WL, FPS, BLM Sensitive, NCCP- Covered	H (foraging) A (nesting)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, a historic golden eagle nesting location was identified within 5 miles southeast of the TL 637 ROW in an area known as the Mt. Gower Open Space in the Cleveland National Forest. According to the Raptor Management page on the USDA Forest Service website (http://www.fs.usda.gov/detail/cleveland/landmanagement/resourcemanagement), this nest was not active in 2012. This species was not identified during the Sunrise Powerlink surveys for eagles. Therefore, this species is considered to have a high potential to forage but is not considered to have a potential to nest within the TL 637 ROW.
<i>Elanus leucurus</i>	white-tailed kite (nesting)	FPS, BLM Sensitive, NCCP-Not Covered	H (foraging) L (nesting)	CNDDDB lists 1 record of occurrence for this species within 1 mile of the TL ROW, and this species was observed on the TL 637 ROW near pole P158. In addition, the ROW contains high quality suitable habitat.
<i>Accipiter cooperii</i>	Cooper's hawk (nesting)	WL, NCCP- Covered	P (foraging) H (nesting)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains good quality suitable habitat, and this species was observed on the TL 637 ROW near pole P156.
STRIGIDAE	TRUE OWLS			
<i>Athene cunicularia</i>	burrowing owl (burrow sites and some wintering sites)	SSC, BLM Sensitive NCCP-Not Covered	L (foraging) L (burrow sites and wintering)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat to support the species.
<i>Strix occidentalis occidentalis</i>	California spotted owl	SSC, BLM and USFS Sensitive, NCCP-Not Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the TL 637 ROW contains low quality suitable habitat to support the species.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
TYRANNIDAE	TYRANT FLYCATCHERS			
<i>Empidonax traillii</i> / <i>Empidonax traillii</i> <i>extimus</i>	willow flycatcher/ southwestern willow flycatcher (nesting)	FE/SE, NCCP- Covered	L (foraging) A (nesting)	The TL ROW contains low quality suitable habitat; the southwestern willow flycatcher has a low potential to forage within this habitat. However, since CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and the southwestern willow flycatcher has high site fidelity and is not known to breed outside historic locations, this species can be considered absent for nesting within the TL 637 ROW.
HIRUNDINIDAE	SWALLOWS			
<i>Progne subis</i>	purple martin (nesting)	SSC, NCCP-Not Covered	P (foraging) P (nesting)	CNDDDB lists a record of occurrence in 2007 for this species nesting in a wood power pole east of Little Page Road, and 0.5 mile south of Highway 78, at Collier Flat. In addition, a purple martin pair was observed nesting during TL 637 construction at pole P113.
VIREONIDAE	VIREOS			
<i>Vireo bellii pusillus</i>	least Bell's vireo (nesting)	FE/SE, NCCP- Covered	L (foraging) L (nesting)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat to support this species.
TROGLODYTIDAE	WRENS			
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego coastal cactus wren	SSC, NCCP- Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat to support this species.
SYLVIIDAE	GNATCATCHERS			
<i>Poliophtila californica californica</i>	coastal California gnatcatcher	FT/SSC, NCCP- Covered	P (foraging) P (nesting)	CNDDDB lists 2 records of occurrence of this species within 2 miles of the TL ROW. In addition, the ROW contains good quality suitable habitat, and this species was observed nesting on the ROW near poles P64 and P48 during focused surveys conducted in 2010.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
EMBERIZIDAE	PASSERINES			
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	WL, NCCP-Covered	P (foraging) H (nesting)	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW. This species was observed foraging in several locations along the TL ROW, and the ROW contains good quality suitable habitat.
ICTERIDAE	BLACKBIRDS			
<i>Agelaius tricolor</i>	tricolored blackbird (nesting colony)	SSC, BLM Sensitive, NCCP-Covered	L (foraging) L (nesting)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains suitable foraging habitat to support this species. However, no large stands of cattails to support colonial nesting occurs within the project ROW.
PARULIDAE	WOOD-WARBLERS			
<i>Dendroica petechia</i>	yellow warbler (nesting)	SSC, NCCP-Not Covered	L (foraging) L (nesting)	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low to moderate quality suitable habitat to support this species.
CLASS MAMMALIA	MAMMALS			
PHYLLOSTOMIDAE	LEAF-NOSED BATS			
<i>Macrotus californicus</i>	California leaf-nosed bat	SSC, BLM Sensitive, NCCP-Not Covered	L	CNDDDB lists no records of occurrence within 3 miles of the TL ROW. The ROW contains low to moderate quality suitable habitat to support this species.
VESPERTILIONIDAE	EVENING BATS			
<i>Antrozous pallidus</i>	pallid bat	SSC, BLM and USFS Sensitive NCCP-Not Covered	L	CNDDDB lists 6 records of occurrence within 3 miles of the TL ROW, the closest being approximately 0.6 mile from the TL 637 ROW. In addition, the ROW contains low quality roosting habitat to support this species.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SSC, BLM and USFS Sensitive, NCCP-Not Covered	L	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW, and the ROW contains low to moderate quality suitable habitat.
<i>Lasionycteris noctivagans</i>	silver-haired bat	WBWG-M, NCCP-Not Covered	L	CNDDDB lists 1 record (1982) of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Lasiurus blossevillii</i>	western red bat	SSC, NCCP-Not Covered	L	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
<i>Lasiurus cinereus</i>	hoary bat	WBWG-M, NCCP-Not Covered	L	CNDDDB lists 5 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
<i>Lasiurus xanthinus</i>	western yellow bat	SSC, NCCP-Not Covered	L	CNDDDB lists 2 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality suitable habitat.
<i>Myotis ciliolabrum</i>	western small-footed myotis	WBWG-M, BLM Sensitive, NCCP-Not Covered	L	CNDDDB lists 7 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
<i>Myotis evotis</i>	long-eared myotis	WBWG-M, BLM Sensitive, NCCP-Not Covered	L	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
<i>Myotis yumanensis</i>	Yuma myotis	WBWG-M, BLM Sensitive, NCCP-Not Covered	L	CNDDDB lists 6 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality suitable habitat to support this species.
MOLOSSIDAE	FREE-TAILED BATS			
<i>Eumops perotis</i>	western mastiff bat	SSC, BLM Sensitive, NCCP-Not Covered	L	CNDDDB lists 7 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	SSC, NCCP-Not Covered	L	CNDDDB lists 6 records of occurrence within 3 miles of the TL ROW, the ROW contains low quality roosting habitat to support this species.
<i>Nyctinomops macrotis</i>	big free-tailed bat	SSC, NCCP-Not Covered	L	CNDDDB lists 2 records of occurrence within 3 miles of the TL ROW, and the ROW contains low quality roosting habitat to support this species.
LEPORIDAE	RABBITS			
<i>Lepus californicus bennetti</i>	San Diego black-tailed jackrabbit	SSC, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low to moderate quality suitable habitat.

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
HETEROMYIDAE	KANGAROO RATS, POCKET MICE, & KANGAROO MICE)			
<i>Chaetodipus californicus femoralis</i>	Dulzura (California) pocket mouse	SSC, NCCP-Covered	M	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW, and the ROW contains moderate quality suitable habitat.
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	SSC, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low to moderate quality habitat to support this species.
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	SSC, NCCP-Covered	A	CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and the ROW lacks suitable habitat to support this species.
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	SSC, FE, ST, NCCP-Covered	A	Although suitable habitat exists within the ROW, CNDDDB lists no records of occurrence within 3 miles of the TL ROW, and this species was not found during focused surveys conducted by Chambers Group in 2010. No populations of Stephens' kangaroo rat have been reported for the southern parts of San Diego County south of the area of Ramona (Chambers Group 2011).
MURIDAE	MICE, RATS, AND VOLES			
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	SSC, NCCP-Covered	M	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains moderate quality suitable habitat to support this species.
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	SSC, NCCP-Covered	L	Although CNDDDB lists no records of occurrence within 3 miles of the TL ROW, the ROW contains low quality suitable habitat to support this species.
MUSTELIDAE	WEASELS AND RELATIVES			

Table 2
CNDDDB Sensitive Wildlife Species Occurrence Table

Scientific Name	Common Name	Listing Status	Potential for Occurrence	Comments
<i>Taxidea taxus</i>	American badger	SSC, NCCP-Covered	M	CNDDDB lists 3 records of occurrence within 3 miles of the TL ROW, the closest being approximately 0.5 mile from the ROW. In addition, the ROW contains moderate quality suitable habitat to support this species.
<u>Status Codes</u>		<u>Definitions of Occurrence Probability:</u>		
Federal (FED) FE = Federally listed; Endangered FT = Federally listed, Threatened FPE = Federally Proposed for Listing as Endangered FPT = Federally Proposed for Listing as Threatened FC = Federal Candidate Species BLM = BLM Sensitive USFS= USFS Sensitive State ST = State listed; Threatened SE = State listed; Endangered SSC = California Species of Special Concern SA = Special Animals List (CDFW) WBWG = Western Bat Working Group, has no special CDFG provisions FPS = California Fully Protected Species WL = CDFW Watch List		➤ A – Absent from TL 637 – Species is concluded to be absent from the TL area based on failure to detect the species during focused surveys, or habitat requirements are not present. ➤ L – Low Potential for Occurrence – Historical records for this species do not exist within the immediate vicinity (approximately 3 miles) of the project site, and/or habitats or environmental conditions needed to support the species are of poor quality. ➤ M – Moderate Potential for Occurrence – Either a historical record exists of the species within the immediate vicinity of the project site (approximately 3 miles) and marginal habitat exists on the project site, or the habitat requirements or environmental conditions associated with the species occur within the project site, but no historical records exist within 3 miles of the project site. ➤ H – High Potential for Occurrence – Both a historical record exists of the species within the project site or its immediate vicinity (approximately 3 miles), and the habitat requirements and environmental conditions associated with the species occur within the project site. ➤ P – Species Present – The species was observed in the TL area at the time of the survey.		
Source: California Natural Diversity Data Base (CNDDDB 2012), Ramona and Santa Ysabel, California (USGS 7.5-minute quads).				

APPENDIX F – WILDLIFE SPECIES OBSERVED LIST



Appendix F: Wildlife Species Observed List

Scientific Name	Common Name
CLASS INSECTA	INSECTS
NYMPHALIDAE	BRUSH-FOOTED BUTTERFLIES
<i>Junonia coenia</i>	common buckeye
PIERIDAE	WHITES AND SULFURS
<i>Pieris brassicae</i>	common white
CLASS REPTILIA	REPTILES
PHRYNOSOMATIDAE	SPINY LIZARDS
<i>Sceloporus orcutti</i>	granite spiny lizard
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Phrynosoma coronatum blainvillii</i>	San Diego coast horned lizard
SCINCIDAE	SKINKS
<i>Plestiodon skiltonianus interparietalis</i>	Coronado Island skink
VIPERIDAE	VIPERS
<i>Crotalus mitchellii pyrrhus</i>	southwestern speckled rattlesnake
COLUBRIDAE	COLUBRID SNAKES
<i>Lampropeltis</i> sp.	unidentified kingsnake
BOIDAE	BOAS
<i>Charina trivirgata roseofusca</i> (<i>Lichanura trivirgata roseofusca</i>)	coastal rosy boa
CLASS AVES	BIRDS
ANATIDAE	DUCKS AND GEESE
<i>Anas platyrhynchos</i>	mallard
ODONTOPHORIDAE	NEW WORLD QUAIL
<i>Callipepla californica</i>	California quail
PHASIANIDAE	PHEASANTS AND GROUSE
<i>Meleagris gallopavo</i>	wild turkey
PODICIPEDIDAE	GREBES
<i>Podilymbus podiceps</i>	pied-billed grebe
CATHARTIDAE	NEW WORLD VULTURES
<i>Cathartes aura</i>	turkey vulture
ACCIPITRIDAE	HAWKS, KITES, EAGLES
<i>Elanus leucurus</i>	white-tailed kite
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Buteo jamaicensis</i>	red-tailed hawk
FALCONIDAE	FALCONS
<i>Falco sparverius</i>	American kestrel
COLUMBIDAE	PIGEONS & DOVES
<i>Columba livia</i>	rock pigeon
<i>Streptopelia decaocto</i>	Eurasian collared dove

Appendix F: Wildlife Species Observed List

Scientific Name	Common Name
<i>Zenaida macroura</i>	mourning dove
CUCULIDAE	CUCKOOS & ROADRUNNERS
<i>Geococcyx californianus</i>	greater roadrunner
TYTONIDAE	BARN OWLS, MASKED OWLS, AND BAY OWLS
<i>Tyto alba</i>	barn owl
STRIGIDAE	TRUE OWLS
<i>Bubo virginianus</i>	great horned owl
APODIDAE	SWIFTS
<i>Aeronautes saxatalis</i>	white-throated swift
TROCHILIDAE	HUMMINGBIRDS
<i>Calypte anna</i>	Anna's hummingbird
<i>Calypte costae</i>	Costa's hummingbird
<i>Trochilidae</i> sp.	unidentified hummingbird sp.
PICIDAE	WOODPECKERS
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Colaptes auratus</i>	northern flicker
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Contopus sordidulus</i>	western wood-pewee
<i>Empidonax</i> sp.	Empidonax sp.
<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Myiarchus cinerascens</i>	ash-throated flycatcher
<i>Tyrannus vociferans</i>	Cassin's kingbird
<i>Tyrannus verticalis</i>	western kingbird
<i>Tyrannus</i> sp. (yellow-bellied)	yellow-bellied kingbird sp.
VIREONIDAE	VIREOS
<i>Vireo huttoni</i>	Hutton's vireo
CORVIDAE	CROWS
<i>Corvus corax</i>	common raven
<i>Corvus brachyrhynchos</i>	American crow
<i>Aphelocoma californica</i>	western scrub-jay
HIRUNDINIDAE	SWALLOWS
<i>Progne subis</i>	purple martin
<i>Tachycineta bicolor</i>	tree swallow
<i>Tachycineta thalassina</i>	violet-green swallow
<i>Petrochelidon pyrrhonota</i>	cliff swallow
<i>Hirundinidae</i> sp.	swallow sp.
PARIDAE	CHICKADEES AND TITMICE
<i>Baeolophus inornatus</i>	oak titmouse

Appendix F: Wildlife Species Observed List

Scientific Name	Common Name
AEGITHALIDAE	BUSHTITS
<i>Psaltirparus minimus</i>	bushtit
SITTIDAE	NUTHATCHES
<i>Sitta carolinensis</i>	white-breasted nuthatch
TROGLODYTIDAE	WRENS
<i>Salpinctes obsoletus</i>	rock wren
<i>Catherpes mexicanus</i>	canyon wren
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Troglodytes aedon</i>	house wren
POLIOPTILIDAE	OLD WORLD WARBLERS, GNATCATCHERS
<i>Poliophtila californica californica</i>	coastal California gnatcatcher
SILVIIDAE	OLD WORLD WARBLERS
<i>Chamaea fasciata</i>	wrentit
TURDIDAE	THRUSHES
<i>Salia mexicana</i>	western bluebird
<i>Sialia currucoides</i>	mountain bluebird
MIMIDAE	MOCKINGBIRDS
<i>Mimus polyglottos</i>	northern mockingbird
<i>Toxostoma redivivum</i>	California thrasher
STURNIDAE	STARLINGS
<i>Sturnus vulgaris</i>	European starling
PTILOGONATIDAE	SILKY FLYCATCHERS
<i>Phainopepla nitens</i>	phainopepla
EMBERIZIDAE	PASSERINES
<i>Pipilo maculatus</i>	spotted towhee
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow
<i>Melozone crissalis</i>	California towhee
<i>Spizella atrogularis</i>	black-chinned sparrow
<i>Chondestes grammacus</i>	lark sparrow
<i>Junco hyemalis</i>	dark-eyed junco
CARDINALIDAE	CARDINALS
<i>Pheucticus melanocephalus</i>	black-headed grosbeak
<i>Passerina caerulea</i>	blue grosbeak
<i>Passerina amoena</i>	Lazuli bunting
ICTERIDAE	BLACKBIRDS & ORIOLES
<i>Agelaius phoeniceus</i>	red-winged blackbird
<i>Sturnella neglecta</i>	western meadowlark
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Molothrus ater</i>	brown-headed cowbird
<i>Icterus cucullatus</i>	hooded oriole

Appendix F: Wildlife Species Observed List

Scientific Name	Common Name
<i>Icterus bullockii</i>	Bullock's oriole
<i>Icteridae</i> sp.	blackbird sp.
FRINGILLIDAE	FINCHES
<i>Carpodacus mexicanus</i>	house finch
<i>Carduelis psaltria</i>	lesser goldfinch
PASSERIDAE	OLD WORLD SPARROWS
<i>Passer domesticus</i>	house sparrow
CLASS MAMMALIA	MAMMALS
SCIURIDAE	SQUIRRELS
<i>Xerospermophilus beecheyi</i>	California ground squirrel
CANIDAE	DOGS
<i>Canis latrans</i>	coyote
CERVIDAE	DEER
<i>Odocoileus hemionus fuliginatatus</i>	southern mule deer

APPENDIX G – SITE PHOTOGRAPHS



APPENDIX G – SITE PHOTOGRAPHS



Illustration 1. Creelman Substation facing west.



Illustration 2. Pole D28 facing north.



Illustration 3. Pole D31 facing northwest.



Illustration 4. Pole P66 facing southeast.



Illustration 5. Pole P103 facing east.



Illustration 6. Pole P128 facing east.



Illustration 7. Pole P157 facing south.



Illustration 8. Pole P162 facing north.



Illustration 9. Mt. Gower Helicopter Landing Site facing northeast.



Illustration 10. Santa Ysabel Staging Yard facing east.



Illustration 11. View of Creelman Lane facing east.



Illustration 12. View of San Diego Country Estates facing east.



Illustration 13. View of TL 637 facing east.



Illustration 14. View of TL 637 facing north.



Illustration 15. View of surrounding hillsides on TL 637 facing south.

APPENDIX 4.5-A

PALEONTOLOGICAL RESOURCES RECORD SEARCH



SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

27 March 2012

Dr. Susan M. Hector
Cultural Resources SDG&E Environmental Programs
8315 Century Park Court CP21E
San Diego, CA 92123

RE: Paleontological record search – SDG&E Transmission Line 637 Pole Replacement Project

Dear Dr. Hector:

This letter summarizes the results of a review of the paleontological locality and specimen records held in the Department of Paleontology at the San Diego Natural History Museum (SDNHM) that may be relevant to the proposed SDG&E Transmission Line 637 Pole Replacement Project. The project right-of-way (ROW) is approximately 13.5 miles long and extends from the central portion of the community of Ramona in the unincorporated area of San Diego County northeastward into the northwestern portion of the community of Central Mountain in the unincorporated area of San Diego County. The alignment terminates in the southern-central portion of the North Mountain Community Plan Area of the County of San Diego. The project area occurs within portions of the Ramona and Santa Ysabel, CA 7.5 minute USGS topographic quadrangles.

Existing Conditions—Published geological reports (Rogers, 1965 and Todd et al., 2006) that cover portions of the project ROW reveal that the majority of the proposed pole replacement sites are located in areas underlain by plutonic igneous rocks of the Cretaceous-age (~120 to 90 million years old) Peninsular Ranges Batholith. These crystalline rocks vary in composition and include granite, tonalite, and granodiorite. Sedimentary rocks exposed along the project ROW are deposits of the Middle to Late Eocene-age (~36 to 38 million years old) Pomerado Conglomerate and of Late Pleistocene to Holocene-age (~500,000 years old to present) channel deposits.

Paleontological Resources—Paleontological locality and specimen records at SDNHM reveal that there are no known fossil discovery sites within one mile of the SDG&E Transmission Line 637 Pole Replacement Project ROW. This lack of recorded paleontological sites is largely due to the widespread occurrence of plutonic igneous rocks of the Peninsular Ranges Batholith. The high temperature and pressure conditions associated with the origin of these plutonic rocks are responsible for the absence of fossils. In contrast, the sedimentary origin of the Pomerado Conglomerate and of the Late Pleistocene to Holocene aged channel deposits suggests the potential for contained paleontological resources (e.g., fossil material). Deméré and Walsh (1993) have assigned the Pomerado Conglomerate a high paleontological sensitivity due to known occurrences of scientifically important fossil specimens found within the unit in other regions of San Diego County. Furthermore, Deméré and Walsh (1993) describe the

paleontological resource sensitivity of the Pleistocene alluvial deposits in mountain valleys of the Peninsular ranges as being of low to moderate sensitivity.

Impacts— Given the occurrence of non-fossiliferous plutonic igneous rocks along the project ROW, negative impacts to significant paleontological resources during installation of the new transmission poles are unlikely in those areas. However, negative impacts to significant paleontological resources could occur in those portions of the ROW underlain by sedimentary rocks. These areas include those mapped as the Middle to Late Eocene-age Pomerado Conglomerate and the Late Pleistocene to Holocene-age channel deposits. Some pole locations are within sedimentary rocks that would potentially require paleontological monitoring (see attached table). The type of proposed impacts for the pole replacements will be an important factor as well. A small borehole diameter (<12”) for installation of single utility poles typically will pulverize subsurface deposits and any contained fossil remains. In contrast, larger pole diameters, excavations for deep utility trenches or for vaults and/or substations often result in opportunities for the discovery and recovery of buried fossil remains.

Recommendations — Some of the proposed pole replacement sites do occur in areas underlain by sedimentary units with a high to moderate sensitivity potential for containing paleontological resources and it is possible the proposed small diameter utility pole replacement boreholes and trenching will result in significant impacts. Assuming the new poles will be installed in freshly drilled boreholes, a standard paleontological avoidance program should be implemented for the affected segments described above. However, micropile poles, if installed, will not require paleontological monitoring. In addition, the high sensitivity rating for the Pomerado Conglomerate and the low to moderate sensitivity rating for the Late Pleistocene to Holocene-age channel deposits would suggest the implementation of a standard paleontological avoidance program consisting of excavation monitoring, fossil recovery, specimen preparation and curation, and production of a final report. Implementation of the paleontological recovery program will avoid impacts of the project on paleontological resources. Determination of the need for avoidance is dependent on the impact thresholds of the proposed installation excavations.

If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or jeladli@sdnhm.org.

Sincerely,



Joseph J. El Adli
Fossil Preparations Lab Manager
Department of PaleoServices

References Cited:

- Deméré, T.A. and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission 1-68.
- Rodgers, T.H. 1965. Santa Ana Sheet. California Division of Mines and Geology, Geologic Map of California, Scale 1:250,000.
- Todd, V.R.; Busch, L.L.; Foster, B.D., Hernandez, J.L.; Tan, S.S. 2006. Geologic Map of the Ramona 7.5 Minute Quadrangle, San Diego County, California: A Digital Database. California Geological Survey.

**POLE NUMBERS WITH MODERATE TO HIGH PALEONTOLOGICAL
SENSITIVITY**

Pole Number	Formation	Sensitivity
D26	Pomerado Conglomerate	High
D28	Pomerado Conglomerate	High
D31	Pomerado Conglomerate	High
P25	Pomerado Conglomerate	High
D33	Pomerado Conglomerate	High
D34	Pomerado Conglomerate	High
P62	Late Pleistocene to Holocene-age channel deposits	Moderate/Low
P63	Late Pleistocene to Holocene-age channel deposits	Moderate/Low

APPENDIX 4.7-A
REGULATORY DATABASE RECORDS

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☐ SIGNIFIES A CLOSED SITE

☒ Leaking Underground Tank (LUST) Cleanup Sites

☒ Other Cleanup Sites

☒ Land Disposal Sites

☒ Military Sites

☒ WDR Sites

☐ Permitted Underground Storage Tank (UST) Facilities

☒ Monitoring Wells*

* ZOOM IN TO SEE MWS

☐ DTSC Cleanup Sites

☐ DTSC Haz Waste Permit

MAP SIZE

640x480

OPTIONS

☒ Site List - [EXPORT TO EXCEL](#)

1 Sites

☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS:

SITE LIST

<u>SITE NAME</u>	<u>GLOBAL ID</u>	<u>CLEANUP STATUS</u>	<u>ADDRESS</u>	<u>CITY</u>
DAVID MADISON	T0607302260	COMPLETED - CASE CLOSED	1865 KEYES RD	RAMONA

MAP AN ADDRESS:

<https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=ramona%2C+ca>

3/13/2012

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☐ SIGNIFIES A CLOSED SITE

☒ ■ Leaking Underground Tank (LUST) Cleanup Sites

☒ ■ Other Cleanup Sites

☒ ■ Land Disposal Sites

☒ ■ Military Sites

☒ ■ WDR Sites

☐ ■ Permitted Underground Storage Tank (UST) Facilities

☒ ● Monitoring Wells*

* ZOOM IN TO SEE MWS

☐ ▲ DTSC Cleanup Sites

☐ ▲ DTSC Haz Waste Permit

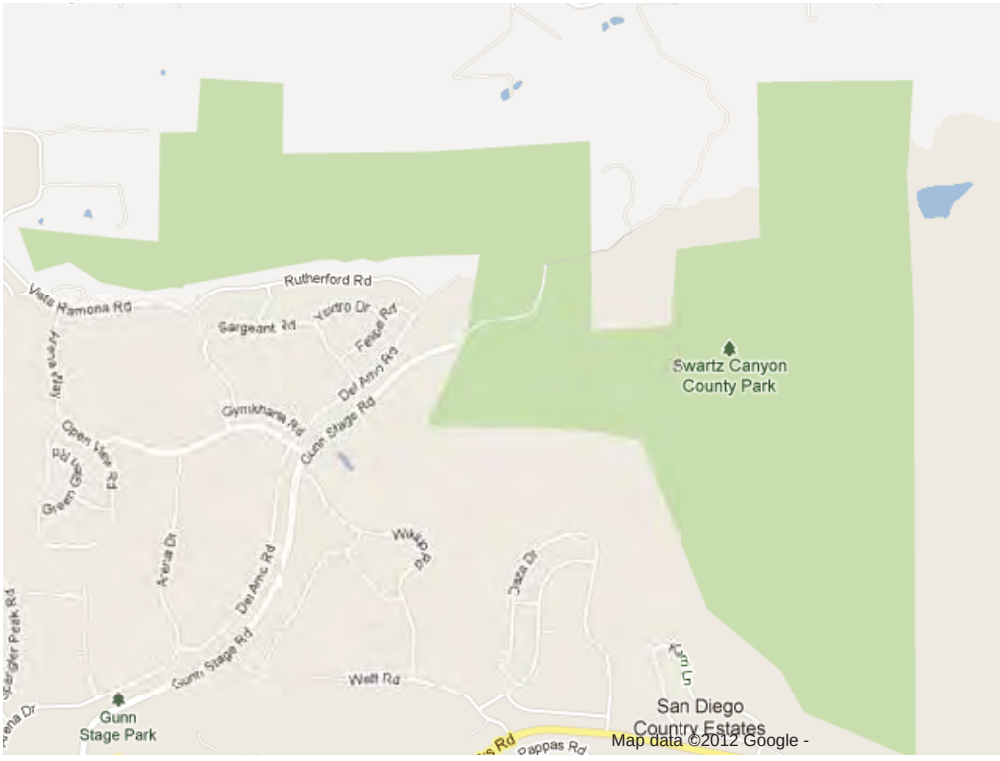
MAP SIZE

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OPTIONS

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SITE LIST

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MAP AN ADDRESS:

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☐ SIGNIFIES A CLOSED SITE

☒ ■ Leaking Underground Tank (LUST) Cleanup Sites

☒ ■ Other Cleanup Sites

☒ ■ Land Disposal Sites

☒ ■ Military Sites

☒ ■ WDR Sites

☐ ■ Permitted Underground Storage Tank (UST) Facilities

☒ ● Monitoring Wells*

☐ ▲ DTSC Cleanup Sites

☐ ▲ DTSC Haz Waste Permit

MAP SIZE

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OPTIONS

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MAP AN ADDRESS:

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

☐  Leaking Underground Tank (LUST) Cleanup Sites

☐  Other Cleanup Sites

☐  Land Disposal Sites

☐  Military Sites

☐  WDR Sites

☐  Permitted Underground Storage Tank (UST) Facilities

☒  Monitoring Wells*

☐ * ZOOM IN TO SEE MWS

☐  DTSC Cleanup Sites

☐  DTSC Haz Waste Permit

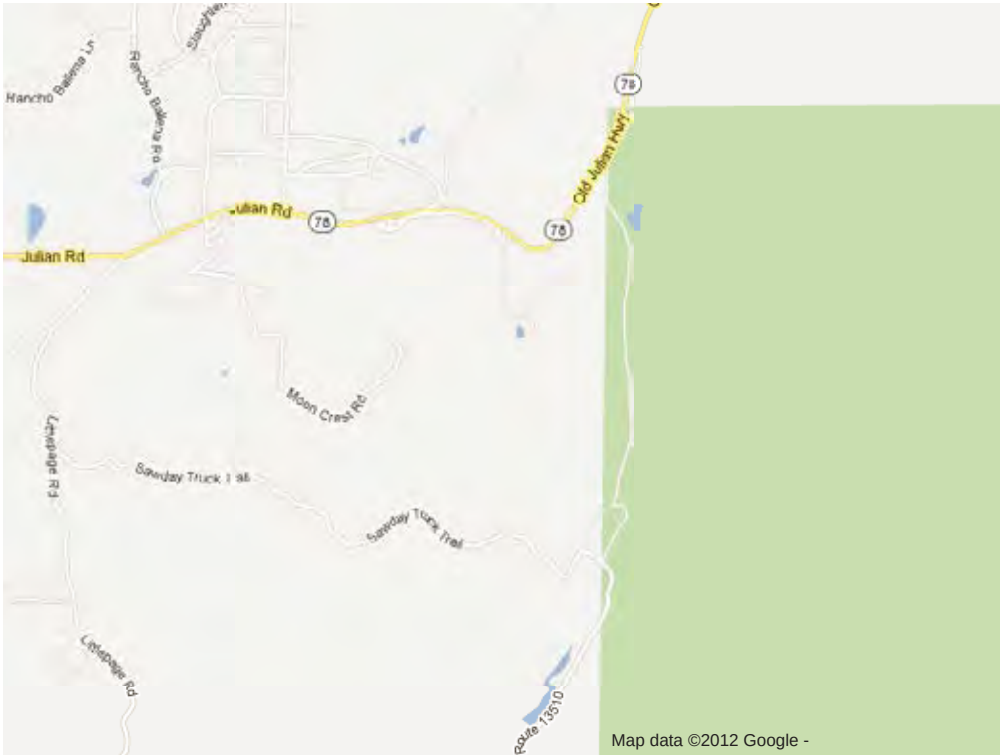
MAP SIZE

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OPTIONS

☒ Site List - [EXPORT TO EXCEL](#)

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☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: ramona, ca

Go

SITE LIST

<u>SITE NAME</u>	<u>GLOBAL ID</u>	<u>CLEANUP STATUS</u>	<u>ADDRESS</u>	<u>CITY</u>
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MAP AN ADDRESS:

Go!

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

☐  Leaking Underground Tank (LUST) Cleanup Sites

☐  Other Cleanup Sites

☐  Land Disposal Sites

☐  Military Sites

☐  WDR Sites

☐  Permitted Underground Storage Tank (UST) Facilities

☒  Monitoring Wells*

☐ * ZOOM IN TO SEE MWS

☐  DTSC Cleanup Sites

☐  DTSC Haz Waste Permit

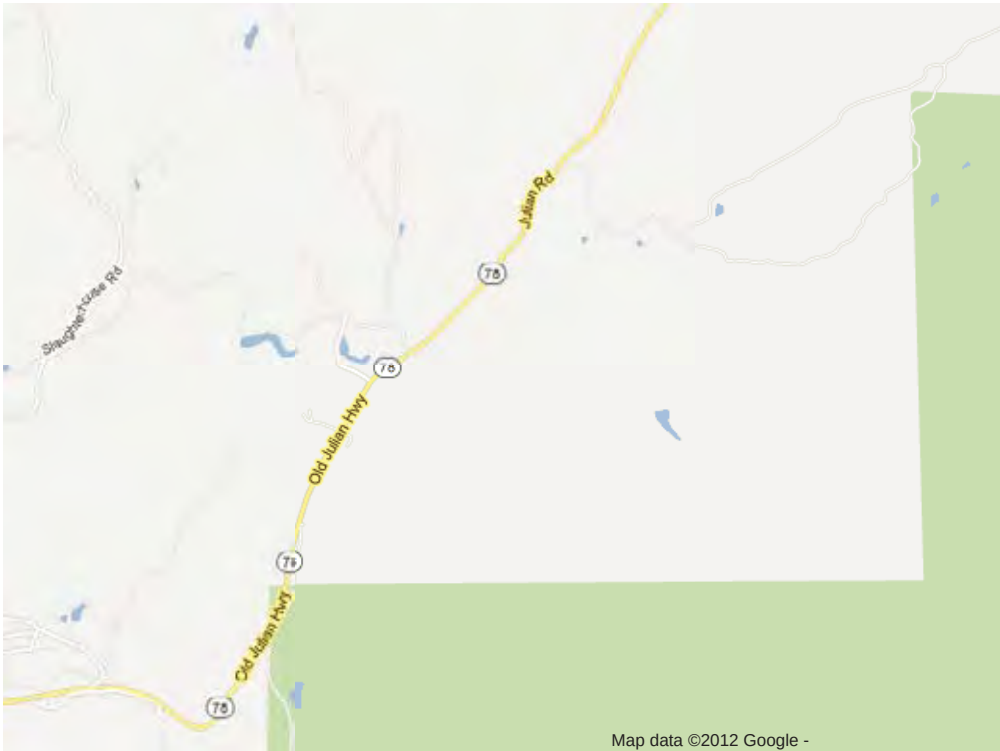
MAP SIZE

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☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: ramona, ca

Go

SITE LIST

<u>SITE NAME</u>	<u>GLOBAL ID</u>	<u>CLEANUP STATUS</u>	<u>ADDRESS</u>	<u>CITY</u>
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MAP AN ADDRESS:

Go!

[LINK TO THIS MAP](#)

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

☒ Leaking Underground Tank (LUST) Cleanup Sites

☒ Other Cleanup Sites

☒ Land Disposal Sites

☒ Military Sites

☒ WDR Sites

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☒ Monitoring Wells*

* ZOOM IN TO SEE MWS

☐ DTSC Cleanup Sites

☐ DTSC Haz Waste Permit

MAP SIZE

640x480

OPTIONS

☒ Site List - [EXPORT TO EXCEL](#)

8 Sites

Map data ©2012 Google -

☐ SHOW SITES WITHIN FEET OF THE FOLLOWING ADDRESS: **SITE LIST**

<u>SITE NAME</u>	<u>GLOBAL ID</u>	<u>CLEANUP STATUS</u>	<u>ADDRESS</u>	<u>CITY</u>
☒ CALTRANS - HIGHWAYS 78 AND 79	T0607390929	COMPLETED - CASE CLOSED	HIGHWAYS 78 AND 79	SANTA YSABEL
☒ D & M SERVICE	19632		30351 HY 78	SANTA YSABEL
☒ DUDLEY'S BAKERY	T0607398212	COMPLETED - CASE CLOSED	30218 HIGHWAY 78	SANTA YSABEL
☒ FORMER UNION 76	T0607393244	COMPLETED - CASE CLOSED	NW CORNER INTERSECTION HIGHWAYS 78 AND 79	SANTA YSABEL
☒ MOUNTAIN PROFLAME GAS (LP)	T0608150736	OPEN - SITE ASSESSMENT	30275 HY 78	SANTA YSABEL
☒ SANTA YSABEL (FORMER CHEVRON)	T0607302306	OPEN - REMEDIATION	30350 HWY 78	SANTA YSABEL
☒ SANTA YSABEL BARN SITE	T0608129822	OPEN - SITE ASSESSMENT	NONE WASHINGTON ST	SANTA YSABEL
☒ SANTA YSABEL SERVICE	T0607301078	COMPLETED - CASE CLOSED	30350 HWY 78	SANTA YSABEL

MAP AN ADDRESS:

**PROJECT SEARCH RESULTS**

CLEANUP STATUS: All Statuses



GO

SEARCH CRITERIA: SANTA YSABEL, SAN DIEGO, FEDERAL SUPERFUND SITES (NPL), STATE RESPONSE SITES, VOLUNTARY CLEANUP SITES, SCHOOL CLEANUP SITES, PERMITTED - OPERATING SITES, POST-CLOSURE PERMITTED SITES, HISTORICAL NON-OPERATING SITES, CORRECTIVE ACTION SITES, TIERED PERMIT SITES

0 RECORDS FOUND

[EXPORT TO EXCEL](#)

PAGE 1 OF 1

NO PROJECTS FOUND WITH THOSE SEARCH PARAMETERS.[Conditions of Use](#) | [Privacy Policy](#)

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APPENDIX 4.7-B

CLEVELAND NATIONAL FOREST FIRE PLAN

APPENDIX H

FIRE PLAN

1. SCOPE:

The provisions set forth below outline the responsibility for fire prevention and suppression activities and establish an attack procedure for fires within the authorized area. The authorized area is delineated by map in the Special Use Authorization. The provisions set forth below also specify conditions under which construction activities will be curtailed or shut down. See Section 5, Emergency Measures below.

2. RESPONSIBILITIES:

A. (The Company as) Special Use Authorization Holder

-  (1) Shall abide by the requirements of this Fire Plan.
-  (2) Shall take all steps necessary to prevent his/her employees, subcontractors and their employees from setting fires not required in completion of the contract, shall be responsible for preventing the escape of fires set directly or indirectly as a result of contract operations, and shall extinguish all such fires which may escape.
-  (3) Shall complete the Authorization Holder's (the Company's) Plan Regarding Personnel, Equipment and Organization (6.B) and shall furnish the District Ranger (DR) with a copy prior to commencing work at the site. Shall currently advise the DR of any changes in personnel, equipment and organization as the changes occur. Shall revise Section 6.B to reflect current activities upon request of the DR.

B. Forest Service

The Forest Service may conduct one or more inspections for compliance with the fire plan. The number, timing, and scope of such inspections will be committed at the discretion of agency employees responsible for special use administration. Such inspections do not relieve the Holder

(the Company) of responsibility for correcting violations of the fire plan or for fire safety in general, as outlined in paragraph 2.A above.

3. TOOLS AND EQUIPMENT:

A. The Holder (the Company) shall comply with the following requirements:

Shall equip all diesel and/or gasoline-operated engines, both stationary and mobile, and all flues used in any contract and camp operations with spark arresters that meet Forest Service standards set forth in the National Coordinating Group publication for Multiposition Small Engines, #430-4, or General Purpose and Locomotive, #430-2. Spark arresters are not required on equipment powered by exhaust-driven turbo-charged engines or motor vehicles equipped with a maintained muffler as defined in California Public Resources Code (CPRC), Section 4442 and 4443.

Shall furnish and have available for emergency use on each piece of equipment used in conjunction with performance of the work as listed below, hand tools and/or equipment as follows (CPRC 4427, 4428 and 4431):

(a) One shovel, one axe (or pulaski) and a fully charged fire extinguisher U.L. rated at 4 B-C, or larger, on each truck, personnel vehicle, tractor, grader and other heavy equipment.

Holder (the Company) shall equip each mechanized harvesting machine with hydraulic systems, powered by an internal combustion engine (chipper, feller/buncher, harvester, forwarder, stroke delimber, etc), except tractors and skidders, with at least two 10-lb 4A/60 B-C fire extinguishers, or equivalent. In addition, concentrations of wood dust and debris shall be removed from such equipment daily.

(b) One shovel and one backpack 5 gallon water-filled tank with pump with each welder.

(c) One shovel and one pressurized chemical fire extinguisher for each gasoline-powered tool, including but not restricted to chain saws, soil augers, rock drills, etc. Fire extinguishers shall be of the type and size set forth in the California Public Resources Code Section 4431. Shovel must be kept within 100 feet from each chain saw when used off cleared landing areas.

All tools and equipment required in (1) and (2) above shall be in good workable condition and shall meet the following principle Forest Service specifications for fire tools:

(a) Shovels shall be size "O" or larger and be not less than 46 inches in overall length.

(b) Axes (or pulaskis) shall have 2-1/2 pound or larger heads and be not less than 28 inches in overall length.

Shall furnish a water tank truck or trailer, if so designated in Section 5.F. Tank truck or trailer shall be located on or immediately adjacent to the contract area and meet the following minimum specifications: contain at least 300 gallons of water; a combination straight stream-fog nozzle with 300 feet of one-inch fire hose, with no segment longer than 50 feet; fire hose with nozzle closed shall be capable of withstanding 200 psi pump pressure without leaking, slipping of couplings, distortions, or other failures; nozzle discharge rating of six to 20 gallons per minute; a pump capable of delivering 23 gallons per minute at 175 pounds psi at sea level; power unit for pump shall have fuel for at least two hours operation, with ample transport available for immediate and safe movement of tank over roads serving the contract area; and shall be in good working order; pump outlet shall be equipped with 1-1/2 inch National Standard Fire Hose thread.

~~Shall furnish two tractor headlights for each tractor dozer, if so designated in Section 5.G. Tractor headlights shall be attachable to each tractor and served by an adequate power source.~~

4. GENERAL

A. **State Law.** The Holder (the Company) shall comply with all applicable laws of the State of California. In particular, see California Public Resource Codes.

B. **Permits Required.** The Holder (the Company) must secure a special written permit from the District Ranger or designated representative before engaging in any of the activities listed below. The terms and conditions of any of the permits required for this contract are as shown on copies attached to the Fire Plan.

(1) **Blasting and Storage of Explosives and Detonators.** (Explosives Permit required by California Health & Safety Code, Section 12101.)

(2) **Burning.**

(3) **Air Pollution.** (Issued by local State or County Air Pollution Control Districts, as applicable.)

(4) **Camp, Lunch and Warming Fires.**

(5) Welding and Cutting.

C. Regulations for Burning. Before setting any fires whatsoever, the Holder (the Company) shall notify the DR of his/her intentions. Special care shall be taken to prevent scorching or causing any damage to adjacent structures, trees, and shrubbery. Piles of material to be burned shall be of such size and so placed that during burning no damage shall result to adjacent objects.

D. Smoking and Fire Rules. Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter (CPRC 4423.4). In areas closed to smoking, the Holder may approve special areas to be used for smoking. Designated smoking areas shall be signed by the Holder (the Company). Holder (the Company) shall post signs regarding smoking and fire rules in conspicuous places for all employees to see. Holder's supervisory personnel shall require compliance with these rules. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment, or walking or working in grass and woodlands.

E. Storage and Parking Areas. Equipment service areas, parking areas, and gas and oil storage areas shall be cleared of all inflammable material for a radius of at least 50 feet. Small mobile or stationary engine sites shall be cleared of inflammable material for a radius of at least 15 feet from such engine. Areas must be approved, in writing, by the DR.

F. Welding. Holder (the Company) shall confine welding activity to cleared areas having a minimum radius of ten feet measured from place of welding.

G. Blasting. Holder (the Company) shall use electric caps only. When blasting is necessary in slash areas, a watchperson equipped with shovel and a water-filled backpack can (5 gallon), with hand pump, shall remain in the immediate area for an hour after blasting has been completed.

H. Oil Filter and Glass Jugs. Holder (the Company) shall remove from National Forest land all oily rags and used oil filters. Holder shall prohibit use of glass bottles and jugs on contract operations.

I. Reporting Fires. As soon as feasible, after initial control action is taken, Holder (the Company) shall notify Forest Service of any fires along roads used by Holder.

J. Communications. If required in Section 5.H below, Holder (the Company) shall furnish a servicable telephone, radio-telephone, or radio system connecting each operation with the designated Forest Service Dispatch Center. A radio-equipped fire patrolperson vehicle will satisfy this requirement if in operation during the time required. The communication system shall provide prompt and reliable communications between the Holder's (the Company's) operations and the Forest Service Dispatch Center. The communications system shall be operable during Holder's (the Company's) operation in the fire precautionary period and at the time fire patrolperson service is required. The communications system shall be capable of contacting the designated Forest Service Dispatch Center within five (5) minutes of discovery of a fire in the Holder's (the Company) operating area.

5. EMERGENCY MEASURES

The table set forth below establishes work restrictions and fire precautions that the Holder (the Company) must observe at each activity level.

Holder (the Company) shall conform to the limitations or requirements of Project Activity Level (PAL) obtained from Forest Service before starting work each day. If practicable, Forest Service will determine the following day's activity level by 4:00 p.m. each afternoon. Activity level may be changed at any time if, in the judgment of the Forest Service, fire danger is higher or lower than predicted and such change is consistent with forest management objectives. Whether to change the activity level and whether, when, and how to take weather observations for that purpose are within the discretion of Forest Service.

PROJECT ACTIVITY LEVELS

LEVEL

PROJECT ACTIVITY

- A. Minimum as required by Sections 1 through 4 above.
- B. Furnish Fire Patrolperson. The fire patrolperson must meet the requirements in 5.E below. When mechanized equipment with high-speed rotary head is utilized, the Fire Patrolperson shall remain in the operational area until 8:00 p.m., unless otherwise agreed in writing.
- C. The following operations are prohibited from 1 p.m. until 8 p.m. local time.
- a. Dead tree felling, limbing, or bucking except recently dead trees.
 - b. Operating high speed rotary head equipment.
 - c. Blasting.
- D. The following operations are prohibited from 1 p.m. until 8 p.m. local time.
- a. Tractor, skidder, feller-buncher (without high speed rotary head), forwarder, chipper or shovel logging operations.
 - b. Cable yarding with gravity operated logging systems employing non-motorized carriages when all blocks and moving lines are 10 feet or more above the ground, excluding the line between the carriage and the choker.
 - c. Mechanized loading and hauling, except log trucks already at the landing.

- d. Hand felling green or recently dead material.
- e. Power saw use at landings.
- f. Welding or cutting of metal except by special permit.
- g. Any other spark-emitting operation except by special permit.

The following operations are **prohibited**:

- h. Blasting between hours of 10 a.m. and 8 p.m.
- i. Cable yarding except as stated above.
- j. Mechanized operations for felling (with high speed rotary head), bucking, and limbing.
- k. Felling dead material.
- l. Road clearing and pioneering in uncleared areas.
- m. Mechanized slash disposal.

E. Operations are prohibited except:

- a. Trucks at landing may be loaded and can leave sale area.
- b. Equipment at landings may be serviced.
- c. Roads; dust abatement or rock/aggregate installation.

All of the precautions listed above apply unless the Authorized Officer agrees to changes in writing. Such written agreement, or substitute precautions, shall prescribe measures to be taken by Holder to reduce the risk of ignition, and/or the spread of fire.

A. The Holder (the Company) can obtain the Predicted Activity level for the following day at telephone number: 619 557-5262

B. The Holder (the Company) ☐ will ☒ will not be required to furnish a sealed box of fire fighting tools, to be located in the operating area, at a point accessible in the event of fire. This box shall contain: one 5-gallon, backpack pump-type fire extinguisher filled with water; two axes; two Moleod fire tools; one serviceable chain saw of three and one-half or more horsepower with a cutting bar 20 inches in length or longer; and enough shovels so that each employee at the operation can be equipped to fight fire. The box shall remain unlocked, but be sealed with a Forest Service seal to be broken for emergency use only.

C. The Forest Service ☐ will ☒ will not furnish box of fire fighting tools, the contents of which is within the discretion of agency employees at the district level. The Holder (the Company) shall ensure that the box remains unlocked but sealed with a Forest Service seal to be broken for emergency use only. The Holder (the Company) will be responsible for keeping the box in the operating area, at a point accessible in the event of fire, and will return it to the government upon completion of the work.

D. The Holder (the Company) ☐ will ☒ will not be required to furnish a filled five gallon backpack pump at each work site at activity level C, or above.

E. The Holder (the Company) ☐ will ☒ will not be required to furnish a fire patrolperson with a filled 5-gallon backpack pump to prevent, detect, and suppress any fires in the contract area. The patrolperson shall remain on duty at least two hours after the close of work, at Activity Level C, or above. SUPPLEMENT: The fire patrolperson ☐ may ☐ may not perform other duties on the contract.

F. The Holder (the Company) ☐ will ☒ will not be required to furnish a water tank truck or trailer. Water tank truck or trailer ☐ may ☐ may not be used for other work on the contract.

G. The Holder (the Company) ☐ will ☒ will not be required to furnish tractor headlights.

H. The Holder (the Company) ☐ will ☒ will not be required to furnish communications equipment.

The requirements outlined above may be modified on a case by case basis depending on the scope of the Holder's (the Company's) activities, site conditions, and fire danger or project activity level.

6. REPORTING ALL WILD FIRES

- A. Holder or Holder's (the Company's) employees shall report all fires immediately to the Forest Service Dispatch Center at (619) 557-5262 or call 911.

When reporting a fire, provide the following information;

Your Name;

Call back telephone number;

Project name;

Location;

Legal description (Township, Range, Section); and

Descriptive location (Reference point);

Fire Information;

Acres;

Rate of Spread; and

Wind Conditions.

APPENDIX 4.7-C

TL 637 PROJECT FIRE PLAN

SDG&E PROJECT FIRE PLAN

Project Name: TL 637 Creelman to Santa Ysabel

Project Manager: Bradley Carter **Contract Administrator:** Mike Thomas & Terry Devore

CEQA CHECKLIST:

This Fire Plan is prepared based on criteria set forth in SDG&E Standard Practices 113.1 pursuant to California Forest Practice Rules; Public Resource Code Division 4; Chapter 6. The training, equipment, and practices set for in this plan exceed the PRC rules and meet all CPUC requirements.

PROJECT DESCRIPTION:

General location: Project begins at Santa Ysabel Substation and runs westerly to the Creelman Substation. The existing TL 637 is approximately 13.7 miles in length. The project lies within both Federal Responsibility Area (Cleveland National Forest) and State Responsibility Area (Cal Fire) jurisdiction. The TL is within the SDG&E Wildland Fire Threat Zone (FTZ), classified as very high to extreme fire danger.

Fire jurisdiction & land ownership:

Ownership within project:	Fire responsibility:	Miles or acres within project:
Federal	FRA – Cleveland National Forest & BLM	2.0 miles
Private	SRA – Cal Fire	11.7 miles

Provide a brief narrative of scope and intent of proposed project:

Fire hardening of TL637 will include replacing wood poles with steel poles (direct bury and micro pile), reconductor and the addition of fiber optic.

Provide a brief narrative of project timeframes; specifically address length of project and time of year in which it will be accomplished: Project construction is scheduled to begin in approximately early January 2014 and end approximately September 2014.

Describe all work activities that will be done in the SDG&E FTZ:

- Grading for road maintenance and pole foundations
- Drilling/Digging for pole replacement
- Pole removal and setting
- Micro-piles
- Operation of generators, compressors, chain saws or other internal combustion engines.
- Welding/cutting of steel/wood poles.
- Helicopter operations
- Environmental monitoring
- Re-conductoring

PROJECT FIRE RISKS:

The following are work activities associated with the project that present a fire risk; where they apply, to what extent they apply, and general time frame they are applicable:

<u>Operational Risk:</u>	<u>Location on Project:</u>	<u>Miles or Acres on Project:</u>	<u>Time of year and duration:</u>
Working on energized electrical equipment.	Located throughout the project area but specifically within the very high/extreme FTZ.	13.7	January thru Sept 2014
Off-pavement vehicle	Located throughout	13.7	January thru Sept 2014

operation within project area with flammable vegetation adjacent.	the project on Power Line access roads		
On roadway activities in particularly hazardous wildland vegetation areas.	Located throughout the project area but specifically within the very high/extreme FTZ.	13.7	January thru Sept 2014
Chain saw, generators, pumps, or other internal combustion engines of any kind.	Located throughout the project area but specifically within the very high/extreme FTZ.	13.7	January thru Sept 2014
Use of graders, or other equipment capable of rock to blade contact sparking ignition.	Located throughout the project on Power Line access roads	13.7	January thru Sept 2014
Other tree removal equipment; grinders, chippers, skidders, etc.	Located throughout the project area but specifically within the very high/extreme FTZ.	13.7	January thru Sept 2014
Grinding, cutting, or welding of equipment or construction material.	Located throughout the project area but specifically within the very high/extreme FTZ.	13.7	January thru Sept 2014
Blasting or other explosive work.	A specific blasting plan will be developed if blasting is required	13.7	None planned

PROJECT FIRE RISK MITIGATION MEASURES:

<u>Operational Risk:</u>	<u>Risk Mitigation Description:</u>
Working on energized electrical equipment.	When accessible by motor vehicle, have water tender (minimum 500 gallons w/pump and hose) available within 2 minutes of work site. For inaccessible areas or longer time delays stage personal firefighting equipment within 50' of work activity. Personal firefighting equipment shall include a minimum of three 5 gallon backpack pumps w/water and a shovel or Pulaski for each worker. Assign a "Fire Patrol". Consider the use of a stand-by fire crew on high fire danger days. Contact Contract Administrator for daily and predicted fire danger assessment.
Off-pavement vehicle operation within project area with flammable vegetation adjacent.	Do not park or idle over vegetated areas. If access must be made over these areas use "Fire Patrol" with fire equipment to follow vehicles and /or equipment on foot to rapidly extinguish possible starts. Water tenders can be deployed to reduce this risk as well and should be located within 2 minutes.
On highway activities in particularly hazardous wildland vegetation areas.	Do not park or idle immediately adjacent to wildland fuels. Use "Fire Patrol" to prevent ignition or immediately extinguish any fire start. Have water tender (minimum 500 gallons w/pump and hose) available within 2 minutes of work site.
Chain saw, generators, pumps, or other internal combustion engines of any	Assure equipment has approved spark arrestor. 5# BC Fire Extinguisher or 5 gallon backpack pump w/water and a shovel must be within 25' of any combustion engine. A "Fire Patrol" should be assigned to be a lookout and

kind.	immediately extinguish any fire start.
Use of graders, or other equipment capable of rock to blade contact sparking ignition.	Have water tender (minimum 500 gallons w/pump and hose) available within 2 minutes of work site. 5 gallon backpack pump w/water and a shovel must be within 50' of any equipment use. A "Fire Patrol" should be assigned to be a lookout and immediately extinguish any fire start.
Other tree removal equipment; grinders, chippers, skidders, etc.	Have water tender (minimum 500 gallons w/pump and hose) available within 2 minutes of work site. 5 gallon backpack pump w/water and a shovel must be within 50' of any equipment use. A "Fire Patrol" should be assigned to be a lookout and immediately extinguish any fire start.
Grinding, cutting, or welding of equipment or construction material.	Do not perform on very high to extreme fire danger days. Clear immediate area of all flammable vegetation to 10' diameter. Consider using non-flammable aprons/curtains. 5 gallon backpack pump w/water and a shovel must be within 50' of any equipment use. A "Fire Patrol" should be assigned to be a lookout and immediately extinguish any fire start. Check for fire weather watches and warnings; http://www.wrh.noaa.gov/sto/cafw/ . Call on duty Fire Coordinator for fire questions; (858) 503-5152 .
Blasting or other explosive work.	Requires blasting specific fire plan and permit from local jurisdiction.

STAGING AREAS AND MAJOR OPERATION WORK SITES:

List all staging areas and major operations work sites within project that are located in the SDG&E FTZ:

<u>Staging Area or Major Operations Work Site:</u>	<u>Hazard Reduction or Fire Risk Mitigation Description for each site:</u>
1. Santa Ysabel sub 2. Tulloch woodlot 3. Littlepage Helo LZ 4. Warnock & Keyser rd 5. Creelman lane nursery 6. Mt. Gower LZ	All staging areas and major operations work sites will have sufficient hazard reduction so as to reduce the threat of ignition and spread of a wildland fire. Any work, as noted under Operational Risk, performed in these areas will follow the same mitigation measures. All parking shall be done in designated areas which are void of flammable vegetation. Smoking will only be permitted in designated areas and all butts and matches disposed of in approved reciprocals. Hazard reduction mowing in and around the staging area as well as a water tender should be used as necessary to reduce the fire danger.

PROJECT ACTIVITY LEVEL (PAL)

Portions of the Project occurring on the Cleveland National Forest must abide by the CNF Fire Plan. That plan describes the PAL work restriction matrix and mitigation measures to employ while working on the forest and will supercede this plan in those locations. Prior to the next work day, the CNF will announce the PAL level for the following day. The PAL may impose certain work restrictions. It will be the responsibility of the CA to monitor and provide direction and instruction relative to each days PAL rating.

PROJECT SPECIFIC TOOLS & EQUIPMENT REQUIREMENTS:

No additional requirements are necessary beyond those found in ESP 113.1, the CNF Master Use Plan, and this fire plan. Other consideration should be given to a type 6 wildland engines and crew or equivalent (four wheel drive, water tank of at least 100 gallons, a pump capable of at least 100 psi, 100' of 1" fire hose and nozzle, and one type 2 firefighter) for fire standby on particularly hazardous fire danger days.

PROJECT SPECIFIC SCHEDULE RESTRICTIONS:

All work will cease during periods of declared Red Flag Warnings or other severe fire weather conditions as identified by company officials. Special exemption can be made after consultation with the Fire Coordinator for those activities that present greater risk if left unfinished. The Local Fire Department, Fire Coordinator, or Contract Administrator may restrict any/or all daily work activities due to fire danger or other hazardous conditions. Daily work scheduling should limit high risk work activities between the hours of 1:00 p.m. and 3:00 p.m. when possible.

FIRE SAFETY TRAINING/BRIEFINGS:

All workers shall receive basic wildland fire safety training prior to working on the project. This training shall include fire prevention, notification responsibilities, and suppression tools & methods. The training may be provided by either the contractor or SDG&E.

A pre-project fire briefing for all project personnel shall take place prior to project initiation. This document should be reviewed in its entirety. The On-duty Fire Coordinator should take part if available.

Each work day, in the formal tailboard safety session, a discussion should take place regarding the day's fire related risks and hazards as they are associated to the day's activities. Mitigation's should be discussed to eliminate or minimize those risk's. A "Fire Patrol" should be assigned and their day's responsibilities discussed with the group during the morning tailboard.

IN CASE OF FIRE OR OTHER EMERGENCY:

In the event of a fire or other emergency call **911**, providing location and type of emergency.

FIRE DEPARTMENT INSPECTION: *(Fire Coordinator to determine with initials)*

_____ Required _____ Recommended BM Not required

FIRE COORDINATOR REVIEW: *(Fire Coordinator to coordinate)*

_____ Arrange for Fire Department inspection

HELICOPTER OPERATIONS SAFETY PLAN:

If the project requires the use of helicopters and involves landing or taking off in areas within or adjacent to wildland fuels and vegetation, special mitigations are required.

- Identification of all landing areas within the SDG&E FTZ.
- Assess the wildland hazard for each helicopter site and provide on the ground fire suppression equipment identified above within 50' of the aerial work area.
- Have a fueling safety plan available if refueling takes place on the project location.
- Identification of any special fire tool and/or equipment requirements for each landing site where applicable.
- Designate a "Helicopter Safety Officer" or manager responsible for compliance with the plan during all helicopter operations.

PLAN APPROVAL:

Prepared by:

Bill Molumby
Fire Coordinator

January 14, 2013
Date

Approved by:

Project Manager

Date

Attachment #1

Attached project map

