A.13-09-014 SDG&E 10/30/14 Response
Salt Creek Substation Project PTC
ED-SDGE-016.2

Please note that the items highlighted in yellow are confidential pursuant to CPUC Section 583, General Order 66-C and any applicable Non-Disclosure Agreements; Confidential Non-Public Information exempted from disclosure under federal and state law.

<table>
<tr><th>#</th><th>PEA Section</th><th>Request</th><th>SDG&E Response</th></tr>
<tr><td>1.</td><td>5.3.2</td><td>Provide conceptual design for a 230/12kV Substation including loop-in of the 230-kV line.
The 230/12kV substation is a feasible system alternative to the Proposed Project. The CPUC requires information on the dimensions of a 230/12kV substation to analyze the impacts of the alternative under CEQA relative to the Proposed Project. At a minimum we need to know the following:
1. Limits of grading (cut and fill)

2. Location of loop-in
a. Could the loop-in be located underground?</td><td>1. Estimated grading limits in cubic yards (cy) for a 230-12 kV substation follow in comparison to the proposed 69-12 kV substation:

<table><tr><th></th><th>230-12 kV</th><th>Proposed 69-12 kV</th></tr><tr><td>Raw cut</td><td>39,050</td><td>61,561</td></tr><tr><td>Raw fill</td><td>148,400</td><td>83,131</td></tr><tr><td>Net:</td><td>109,350 (import)</td><td>21,570 (import)</td></tr></table>
Additional MSE walls are also anticipated in order to keep the grading within the proposed parcel – reference attachment AD.16.2-1-1.

2.
a. Based on conceptual engineering undergrounding the 230 kV loop-in appears possible. To do so would require cable poles for the underground loop-in and possibly</td></tr>
</table>

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			structure(s) to contain blow-out with the new cable poles. The 230kV cable poles are estimated to be 60 to 80 feet taller than the proposed 69kV cable poles. The profile of the 230 kV poles would also be larger to accommodate phase spacing and the need for 230 kV cables to come down the outside of the cable poles whereas the 69 kV conductor would be routed inside the cable poles. Additional engineering would be necessary to confirm the feasibility and identify unforeseen issues.
		b. Provide additional information on the public concerns about the 230-kV loop-in	b. During the site negotiations leadership at Brookfield Homes raised significant concerns to SDG&E Executive management over the possibility of erecting a 230/12 kV substation. Tall poles would likely be installed in order to loop-in an underground 230 kV circuit to the Salt Creek Substation and Brookfield was against the visual impact.
		3. Height of the substation for analysis of visual impacts	3. In a 230-12 kV configuration, Salt Creek Substation would be a standard profile substation due to the increased 230 kV electrical clearances (not the low-profile design as proposed for a 69-12 kV substation).

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		4. Duration of construction in months	The tallest structures would be the approximate 55-ft bank deadend and the main bus structure at an estimated 38-ft. The tallest structure of the proposed 69-12kV low profile substation is the bank terminal structure estimated to be 15-ft 7-in. 4. Due to the estimated longer lead time for a 230/12kV transformer, SDG&E estimates construction to take approximately 24 to 30 months for a 230-12 kV configuration versus the estimated 18 months for the proposed 69-12 kV substation.
2.	N/A	Provide the cost to construct a 230/12kV substation at the Salt Creek Substation site?	Based on conceptual engineering the cost is estimated to be $75-85M for a 230-12 kV configuration.
3.	5.5.3	**Provide additional information on Alternative 4. Loop-In TL 6910 and Build New 69-kV Underground Double Circuit from the Existing Substation to Salt Creek Substation (in Public ROW).** Which underground route did SDG&E consider within public ROW? The alternative section of the PEA states that the underground alternative within public ROW was rejected because it would result in additional traffic, air quality, and noise impacts. Describe how this alternative would result in additional noise and air impacts relative to the Proposed Project. Would the additional noise or air quality impacts cause the project to exceed a significance threshold?	See the file below for the underground (UG) route considered (in the public ROW). The length of power line route would be roughly 20% longer with an UG installation compared to the proposed overhead route. UG construction would require open trench installation of a duct package to contain the UG cable. Open trench construction typically requires excavation and haul away of soils followed by the delivery of concrete and other backfill materials. Trench construction and vault placement requires street delineation and traffic interruptions. Impacts relative to noise and air quality were qualitatively determined to be greater than the proposed project, due to the

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			increase in length of the proposed power line, and associated construction/trenching in roadways in close proximity to residents. No quantitative analysis was done, therefore we do not know whether the UG alternative would exceed a significance threshold for air quality. Significance thresholds related to noise would likely not be exceeded, as SDG&E would continue to comply with local noise ordinance requirements during construction. As stated in the PEA, the proposed overhead power line was deemed superior to this alternative because it is more cost effective and would have fewer traffic, air quality, and noise impacts. At the time the estimate for installing underground power lines in the public ROW was $62.5M.
4.	N/A	**Identify an alternative to pole location 28. Pole 28 is very close to homes (within 20 feet) and the construction and placement of the pole at this location is not ideal.** Please evaluate an alternative location for this pole that would increase the distance between the pole and residents. Consider whether it would be feasible to construct a pole down the slope of the hill or if the circuit could be transitioned to the western side of the right-of-way as a double circuit on TL 6910 for the segment north of I-125.	Moving the pole down the hill to the north or south of the proposed location is not feasible because of the terrain. Conceptually, crossing TL6965 to the west side of the ROW requires crossing under the 230 kV circuits which would require compatible terrain, additional 69 kV structures, and likely additional and taller 230 kV structures to maintain GO-95 clearances. SDG&E could relocate Pole 28 to the end of the cul-de-sac located approximately 100 feet to the north (see map below) to avoid locating the pole directly behind any residences.

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			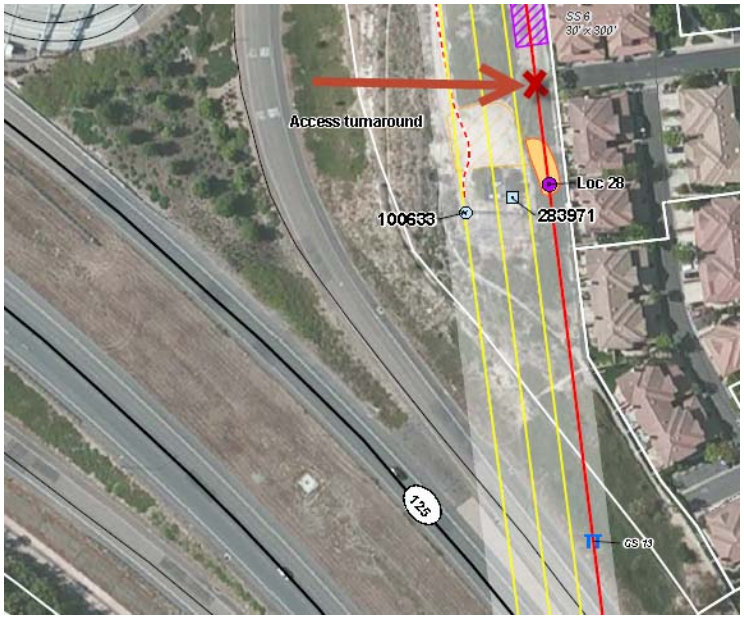
5.	N/A	What is the performance service record and current condition of TL6910? Please provide historical outage records.	All of the TL6910 poles are steel from Miguel Substation down to Mount Miguel Road and south of Hunte Parkway typically for fire hardening purposes. A high majority of the poles are wood from Mount Miguel Road down to Hunte Parkway because they are not in fire prone areas. Reference confidential attachment AD.11-1 previously provided to see which poles are wood or steel.

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			Reference confidential Attachment AD.16.2-5-1 for outage history on TL6910 (no forced outages so far in 2014).
6.	N/A	Can TL6965 be constructed partially as an underbuilt circuit on existing structures in the corridor?	Not on existing structures - none of the existing 69 kV and 230 kV structures have been designed to carry an underbuilt transmission circuit.
7.	N/A	What is the impact if TL6965 and or TL6910 are double circuited and an accident takes out a double circuit structure vs multiple single circuit lines?	For new construction SDG&E recommends to not construct double circuit structures to avoid creating new credible N-2 NERC Category C contingencies (i.e. lines that may be lost simultaneously due to a single common point of failure, such as failure of a common structures). Installation of the proposed single circuit TL6965 should reduce the chance of such a common failure and allows more time to adjust the system to avoid the overload (such as in an N-1-1 situation). Depending on the outage, a simultaneous loss of both TL6965 and TL6910 may result in overloading of other remaining facilities. NERC reliability criteria does allow the use of involuntary load shedding to mitigate Category C contingencies, therefore the double-circuit construction will still allow the system to meet NERC N-1 criteria for loss of one line from Salt Creek to Miguel. Furthermore, both lines in the double circuit configuration (TL6965 and TL6910) will likely have to be de-energized during construction and for select maintenance activities to

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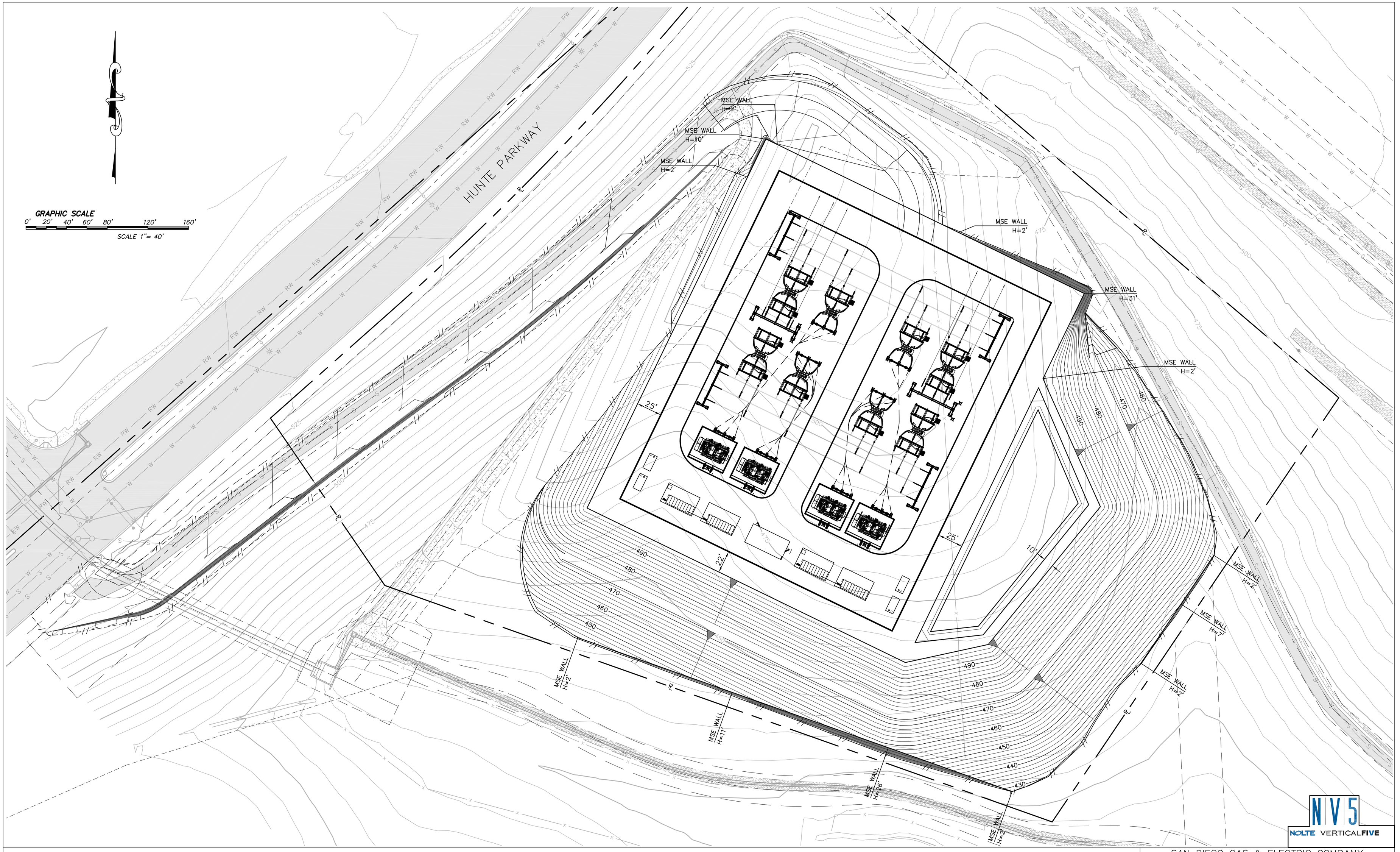
			ensure safety.



REVISIONS

NO.	WORK DONE	DATE:	BY:	APP'D:

70% SUBMITTAL

NV5
NOLTE VERTICALFIVE

SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA

SALT CREEK SUBSTATION
SALT CREEK 230/12kV CONCEPTUAL GRADING

DRAWN BY: OA	DATE: 10/21/14	SCALE: 1"=40'	W.O.:	REV.:	
CHECKED BY: SRV	DATE:				
APPROVED BY:	DATE:	SHEET OF 31			
CAD NO.:	PLOT SCALE: 1:1				

PRELIMINARY NOT FOR CONSTRUCTION

10/24/14

N:\SDB066900\CADD\WORKING\PRTO-C3-230_12KV_GA_20141021-ALT3.DWG

LAND SERVICES GIS
http://gis.sempra.com

Land Services GIS

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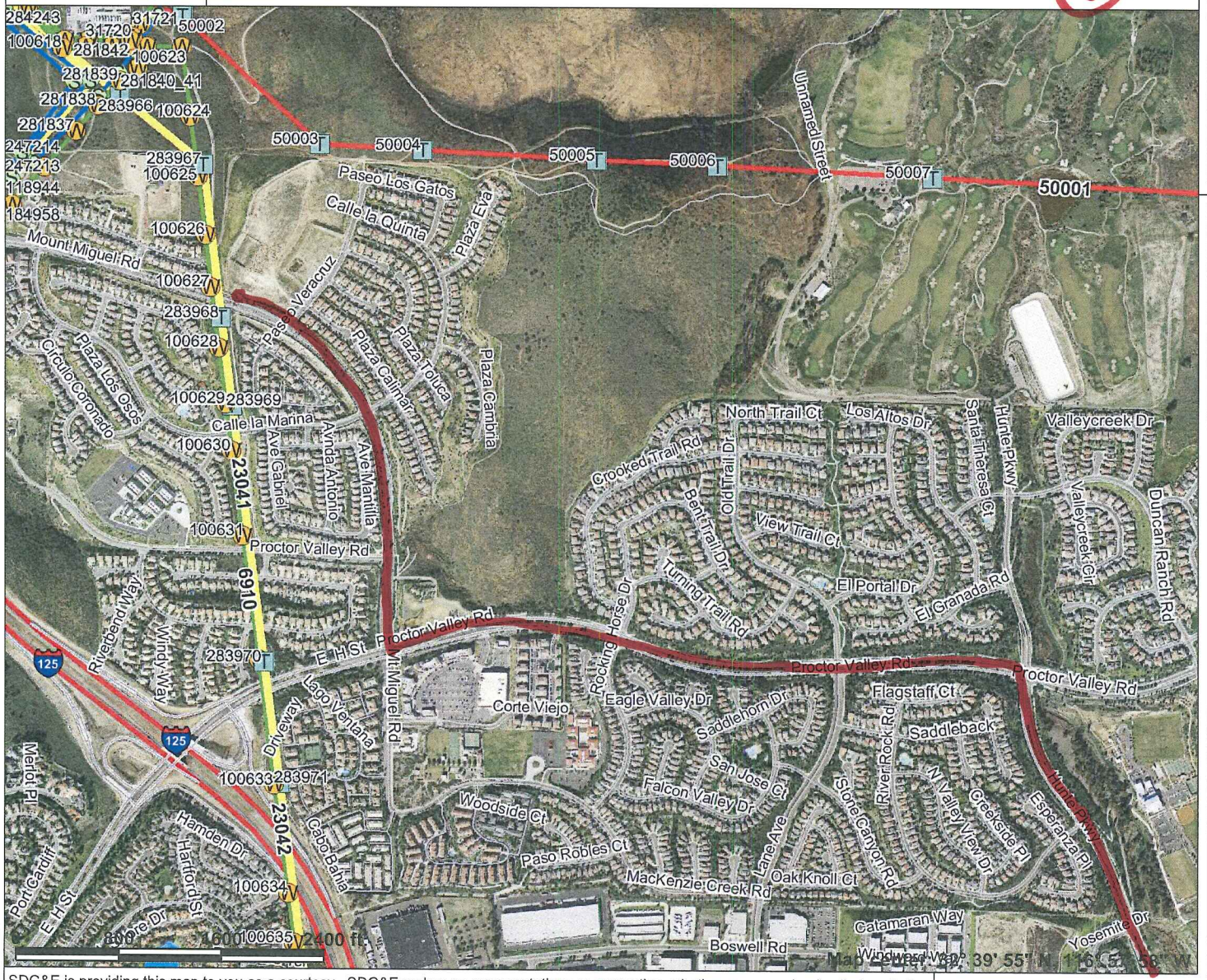


Legend

Electric Transmission Structure (Confidential)

- Portal
- Aerial Marker Structure
- Terminal
- Steel
- Tower
- Underground
- Wood

City Point

Electric Transmission Tieline (Confidential)

- 69kV
- 138kV
- 230kV
- 500kV

- Local Roads
- Main Roads
- Major Roads Shields
- Major Roads
- Highways
- Major Highways

Water Body

- Bay
- Lake or Pond minor category unknown
- Perennial Lake or Pond
- Intermittent Lake or Pond
- Reservoir, Major Category
- Perennial Reservoir
- Intermittent Reservoir

- County Boundary
- SDG&E 2008 West

N

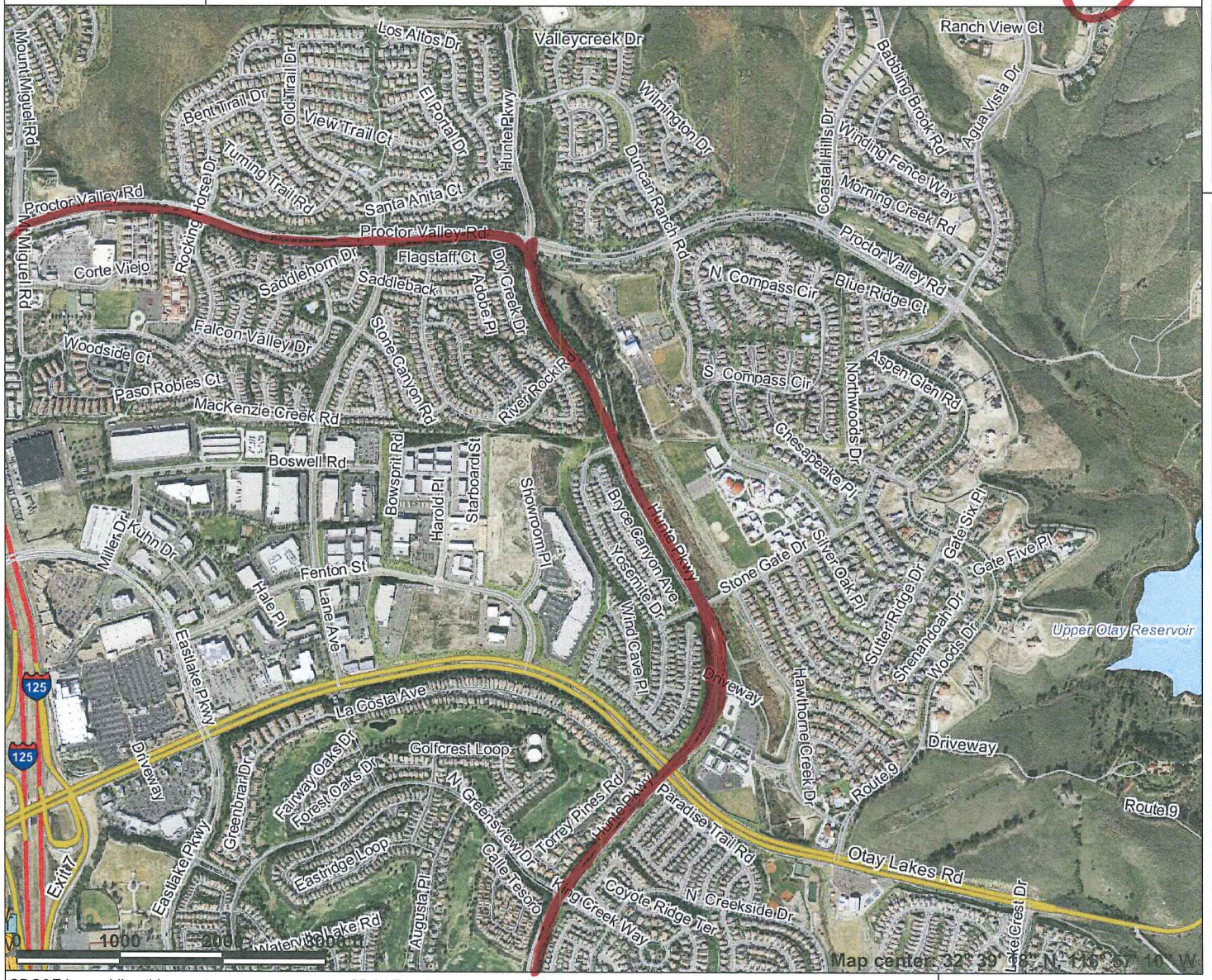
Scale: 1:14,194

User: bmcclain Date: Jul 01 2013

LAND SERVICES GIS
http://gis.sempra.com

Land Services GIS

2



Legend

Electric Transmission Structure (Confidential)

- Portal
- Aerial Marker Structure
- Terminal
- Steel
- Tower
- Underground
- Wood
- City Point

Electric Transmission Tieline (Confidential)

- OH
- UG

- Local Roads
- Main Roads
- Major Roads Shields
- Major Roads
- Highways
- Major Highways
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- SDG&E 2008 West

Scale: 1:17,767

User: bmcclain Date: Jul 01 2013

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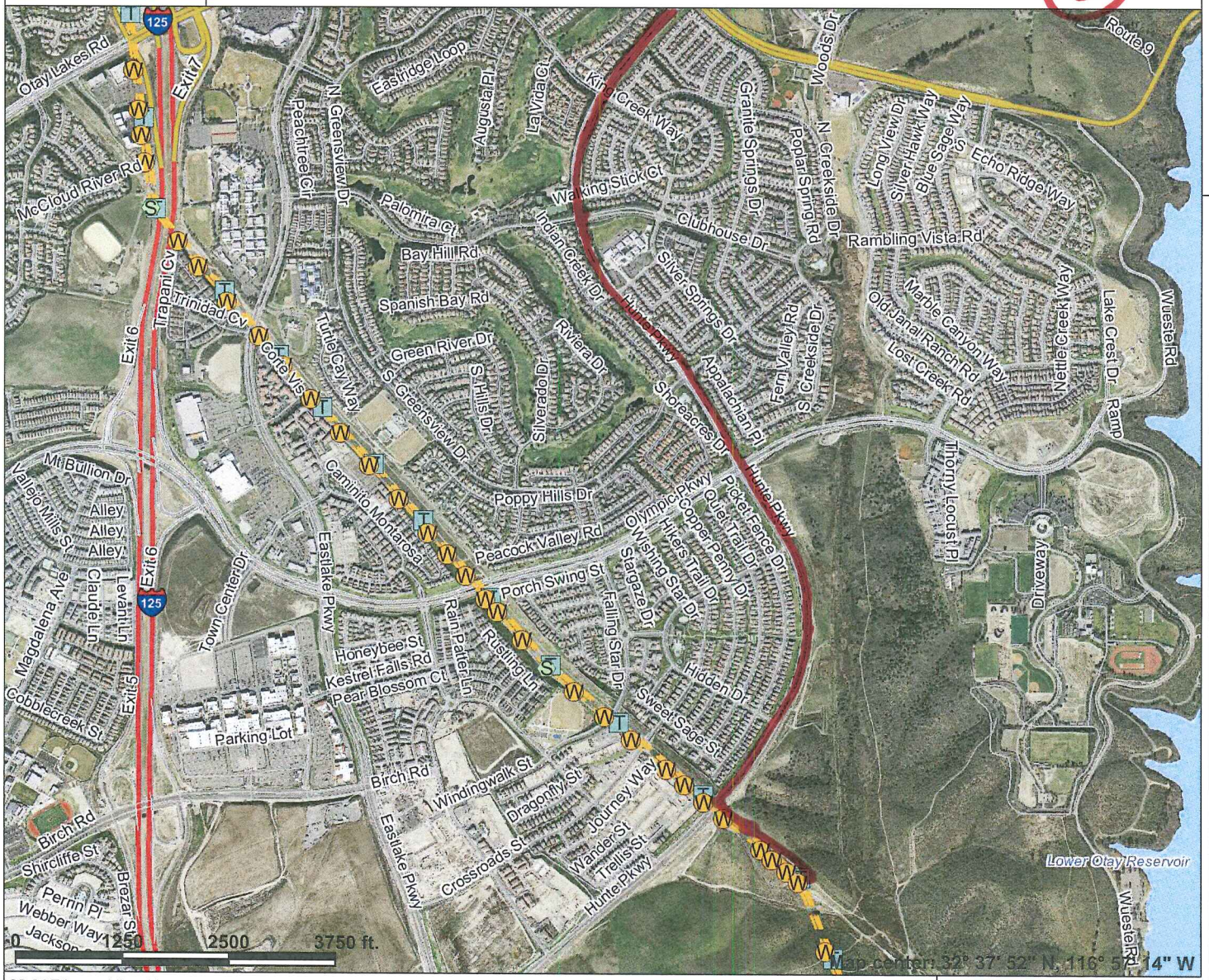
Land Services GIS

3



Legend

Electric Transmission Structure (Confidential)

- Portal
- Aerial Marker Structure
- Terminal
- Steel
- Tower
- Underground
- Wood

City Point

Electric Transmission Tieline (Confidential)

- OH
- UG

Local Roads

Main Roads

Major Roads Shields

Major Roads

Highways

Major Highways

Water Body

- Bay
- Lake or Pond minor category unknown
- Perennial Lake or Pond
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- Intermittent Reservoir

County Boundary

SDG&E 2008 West

N

Scale: 1:21,459

User: bmcclain Date: Jul 01 2013