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Wednesday, November 29, 2017

Dan Silver
Endangered Habitats League
8424 Santa Monica Blvd., Suite A 592
Los Angeles, CA 90069-4267

Re: GIS analysis of slope in Safari Highlands

Dear Dan;

Attached is a short report I've prepared regarding slope impacts from the proposed Safari Highlands Ranch development. The report includes two tables identifying different slopes categories and calculations of their area acreage. The two attached figures illustrate the extent of these slopes within the boundaries of the grading footprint as well as within the boundaries of the overall property. I hope you find this report useful. If you have questions, please feel free to call.

Best regards,

Jared Ikeda

Introduction
The proposed Safari Highlands Ranch development project is located just outside the city boundaries of the city of Escondido. The proposed project is to develop 550 single family homes and supporting infrastructure on a hilly site of approximately 1100 acres. According to the Draft EIR, earthmoving required to enable this development will encompasses approximately 339 acres. This earthmoving requires extensive cuts and fills over steep slopes. Much of this earthmoving will impact areas that have slopes greater than 25% as well as areas having slopes greater than 35%.

Purpose of this Study
This study has been commissioned by the Endangered Habitat League to verify and illustrate the extent of the impact to the steep slopes.

Findings
This study has found that over 171 acres or 38.75% of the graded portion of the site is greater than 25% slope and will be impacted by the proposed development. In addition, approximately 69.75 acres or 15.81% of the graded portion of the site is steeper than 35% and will be impacted. (see Fig 1 – Proposed Grading Boundary overlaid onto Slope Categories). It should be noted that the 240.75 acres identified here includes only slopes greater than 25% and 35% and, lesser slopes that would also be graded are not included in this total.

Slopes within Grading foot print	Area in sq ft	Acres	% of total
Grading above 25%	7,448,890.00	171	38.75%
Grading above 35%	3,038,193.75	69.75	15.81%
	Totals:	**240.75**	

The layout and overall plan of the proposed development project has sought to avoid the steeper portions of the site but, the extent of the proposed development onto the natural topography requires that grading cuts or fills will occur on steep hillsides. Of the 1100 total acres of the site, approximately 22.24% have slopes steeper than 25% and approximately 22.90% have slopes steeper than 35%. (see Fig 2 – Proposed Tentative Map overlaid onto Slope Categories)

Slopes overall	Area in sq ft	Acres	% of total acres
0 to 10%	5,792881.99	132.99	12.14%
10 to 15%	6328327.57	145.28	13.27%
15 to 25%	14048619.96	314.05	29.45%
25 to 35%	10610246.07	243.58	22.24%
Greater than 35%	10921830.85	250.73	22.90%
Totals:		**1,095.09**	

Process

This study utilized a Geographic Information System (GIS) software program to identify the different slope categories and perform analysis and calculations. Available road and parcel map data was first downloaded from the San Diego Association of Governments (SANDAG) Regional GIS data warehouse . This data was used to establish geographic referencing and alignment of all other utilized data.

A digital elevation model (DEM) was used as the basis to calculate slopes. The DEM was downloaded from NOAA's National Geophysical Data Center (NGDC) San Diego Coastal Digital Elevation Model. This data was the basis for creating a slope analysis map with 5 categories of slope steepness – 0 to 10%, 10 to 15%, 15 to 25%, 25 to 35%, and 35% and greater.

The Tentative Map for the proposed Safari Highlands Ranch project was downloaded from the City of Escondido website and geo-referenced and overlaid onto the slope map. The tentative map includes an identification of a cut/fill line which served as the basis for establishing the graded area footprint. This line was difficult to read and there may be some distortion and error within the calculated data. However, any error should be relatively minor.

From the overlaid data, the GIS analysis calculated the different slope areas within the boundary of the property as well as within the boundary of the graded area footprint. The tables and figures created by the GIS program are incorporated within this report.

Data sources

- San Diego Association of Government – Regional GIS Data Warehouse: http://www.sandag.org/index.asp?classid=21&fuseaction=home.classhome

- San Diego, California Coastal Digital Elevation Model: https://catalog.data.gov/dataset/san-diego-california-coastal-digital-elevation-model

  North American Vertical Datum of 1988 (NAVD 88) or Mean High Water (MHW) and horizontal datum of World Geodetic System 1984 (WGS84). Cell size for the DEMs ranges from 1/3 arc-second (~10 meters) to 3 arc-seconds (~90 meters).

- Safari Highlands Ranch – Tentative Map https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/SafariRanch/!TMSafariHighlandsRanchAllShts24X36smallest.pdf

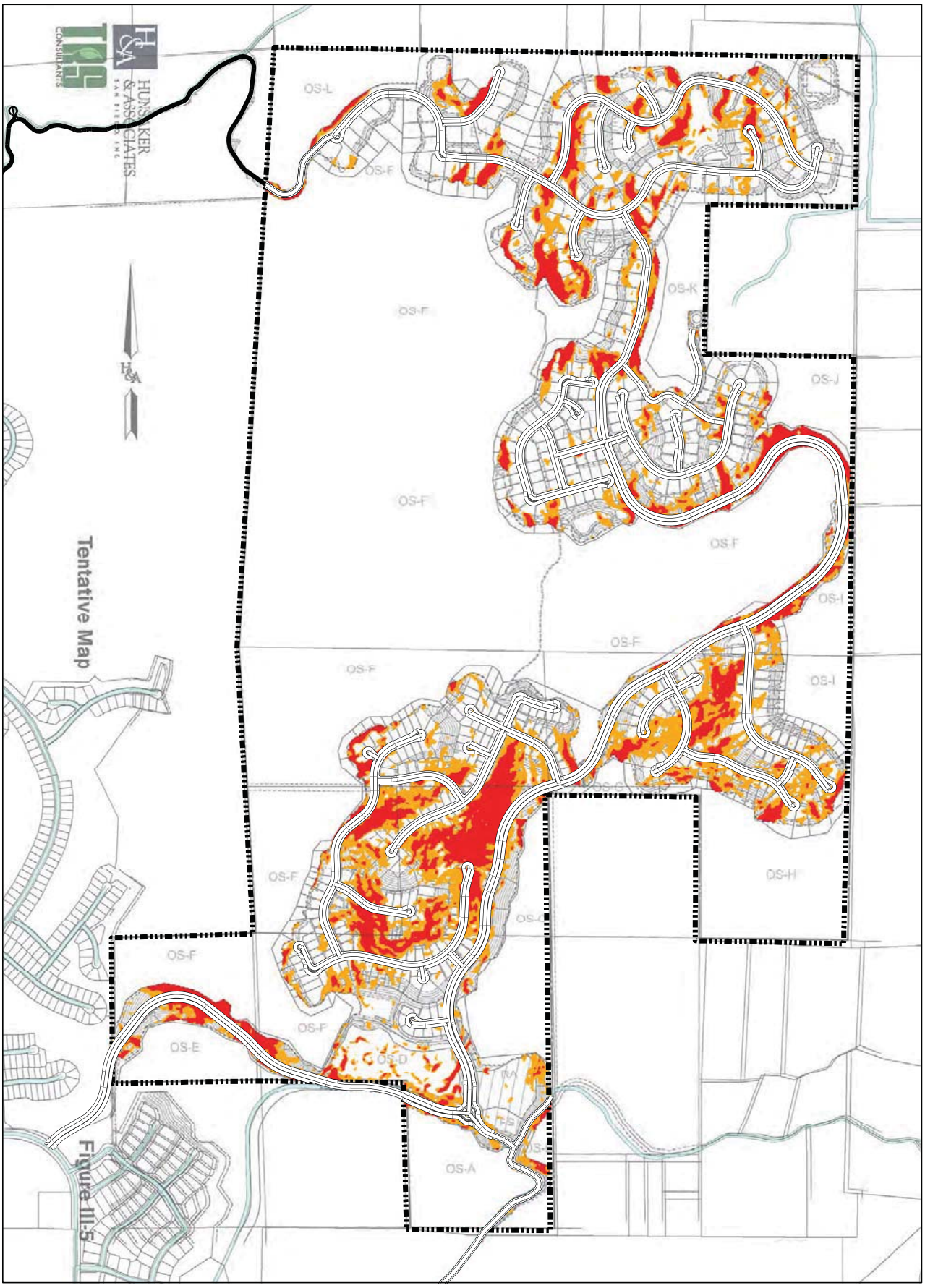

Fig 1 - Proposed Grading overlaid onto slope categories

Legend

- Safari Highland Boundary
- Slope greater than 35%
- Slope greater than 25%

0 500 1,000 2,000 Feet

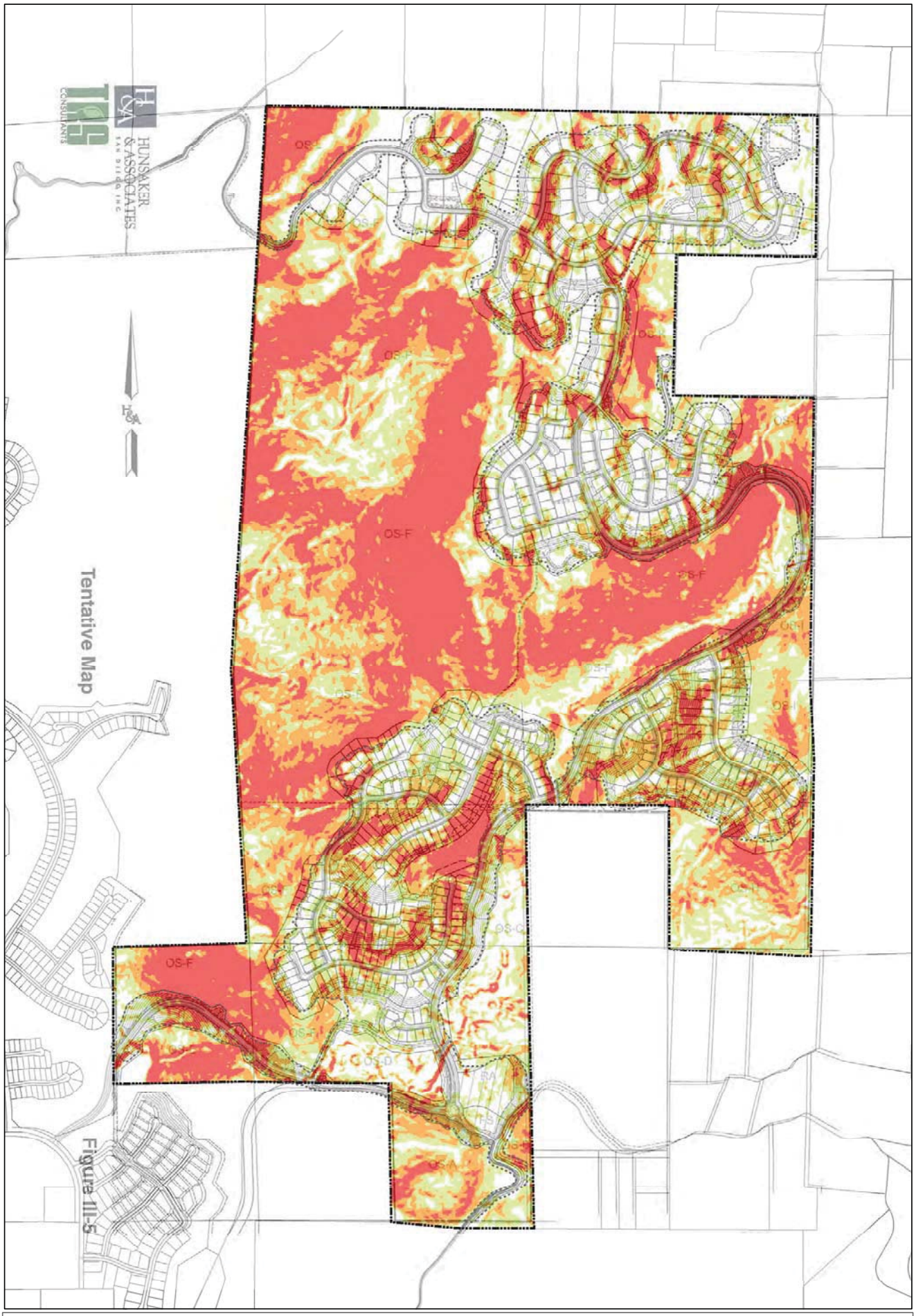

Fig 2 - Proposed Tentative Map overlaid onto slope categories

Jared M. Ikeda - Land Use Planner

Jared Ikeda is a land use planner with more than forty years of professional experience in preparation of land use planning studies, community planning, environmental impact studies, urban site planning, landscape development plans, and recreation planning. He has been involved in a wide range of studies and projects for both public and private sector clients and has participated in and directed all phases of land planning, investigative studies and landscape development. He has served on the board of directors of a major international landscape architectural firm, been responsible for management of a 20-person professional office, management of specific project work, supervision, and coordination of multi-disciplinary teams.

He has served as a lecturer in the Department of Landscape Architecture at California State Polytechnic University, Pomona. His teaching activities focuses upon advanced landscape design and stresses use of computer technology including AutoCAD and ArcMap GIS software. He has prepared a number of visual impact and simulation studies using a variety of computer software including Sketchup and Google Earth. Most recently he has been involved in the preparation of the Monterey County General Plan Update from 1999 to 2004 and was responsible for studies and preparation of the Environmental Resource Management Element and the Circulation Element and directed consultant work on the Environmental Impact Report.

Experience

Principal: Ikeda Consulting, 2005 to Present
Board of Directors of Southern Sierra Conservancy, 2015 to Present
Board of Directors of Landwatch Monterey County, 2010-2015
Monterey County Redevelopment Agency, 2004-2005
Senior Admin Analyst: County of Monterey, Environmental Resource Policy, 1999-2004
Lecturer: Cal Poly Pomona, Dept of Landscape Architecture 1997-1999
Vice-President/Officer-in-Charge EDAW Inc., Irvine Office: 1980 to 1987

Education

Bachelor of Science in Environmental Design, California State Polytechnic University, Pomona, 1968.

Honors

Best Comprehensive Plan, Orange Co. Section, American Planning Association, San Juan Capistrano Master Open Space Plan, 1992
Distinguished Alumnus Award, 1983, School of Environmental Design, California State Polytechnic University, Pomona.
Merit Award, American Society of Landscape Architects, Santa Ana River Open Space Study, 1973

Lectures & Publications

Mr. Ikeda has served as a guest lectureur at UCLA, UC Irvine, and Cal Poly Pomona. Mr. Ikeda has also served as Chairman of a panel on Computers and Landscape Architecture for the Southern California Chapter of the American Society of Landscape Architecture. Contributor to *"Design with Digital Tools"* McGraw Hill, 2000