

**Appendix S Specific Alignment Plan Capacity
Analysis – Traffic Analysis
Memorandum (January 2017)**

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MEMORANDUM

To: Mr. Jack Henthorn.
Jack Henthorn & Associates

Date: January 18, 2017

From: Chris Mendiara *CM*
LLG, Engineers

LLG Ref: 3-13-2299

Subject: 661 Bear Valley Parkway – Specific Alignment Plan Capacity Impacts

Per your request, Linscott, Law & Greenspan, Engineers (LLG) is providing this memorandum to discuss the capacity (traffic) impacts associated with the Specific Alignment Plan (SAP) being prepared concurrently with the technical studies for the 661 Bear Valley Parkway residential project (Project). A traffic impact study has been prepared for the Project which evaluates its traffic impacts, design features and mitigation measures.

The City of Escondido and the property owner are formulating a development agreement that will provide for the installation of frontage improvements located between the southern property boundary of the 661 Bear Valley Parkway parcel and the existing north-bound full-width improvements. This will complete the improvements for the northbound lanes between the City limits on the north and Bear Valley Parkway/ Sunset Drive /Ranchito Drive intersection to the south. These features and improvements are a subset of the overall improvements associated with the SAP.

Generally, traffic impacts can be expected when traffic volumes exceed the roadway network's capacity. The purpose of the SAP is to increase roadway capacity by widening Bear Valley Parkway and improving intersections along it. Therefore, development of the SAP would not be expected to result in traffic impacts.

Specific Alignment Plan Improvements

The SAP addresses roadway network deficiencies along Bear Valley Parkway from the Project's northern boundary (just south of Choya Canyon Road) to the intersection of Bear Valley Parkway/ Sunset Drive/ Ranchito Drive, south of the southern Project boundary. The SAP proposes the following improvements not already evaluated in the traffic impact study:

1. Widen and improve Bear Valley Parkway to 4-lanes from the northern Project boundary to the existing 4-lane segment just north of the Bear Valley Parkway/ Sunset Drive/ Ranchito Drive signalized intersection;
2. Signalize and realign the Bear Valley Parkway/Encino Drive unsignalized intersection

The full improvement to four-lanes would not occur in the near-term condition, although additional right-of-way acquisition south of the site and the corresponding increase in the second northbound lane would result in an increased capacity of



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18,000 ADT, which is greater than the 15,500 ADT provided with the existing two-lane roadway and the improved frontage as described in the traffic impact study.

Analysis

Table A shows a comparison of the Bear Valley Parkway segments both without and with the SAP. This table shows that improved, LOS F operations are still forecasted to occur with both Project traffic volumes and the SAP improvements on the street segments affected by the SAP. As the table shows, the increased capacity of the SAP results in a decrease in V/C ratios on these segments. No significant impacts would occur with the SAP on Bear Valley Parkway segments.

**TABLE A
 STREET SEGMENT OPERATIONS COMPARISON**

Street Segment	Existing + Cumulative Projects + Project (Without SAP)				Existing + Cumulative Projects + Project (With SAP)					Sig Impact ?
	Capacity ^a	ADT ^b	LOS ^c	V/C ^d	Capacity	ADT	LOS	V/C	Δ ^e	
Bear Valley Parkway										
Eldorado Drive to Zlatibor Ranch Road	15,000	26,001	F	1.733	18,000	26,001	F	1.445	(0.288)	No
Zlatibor Ranch Road to Encino Drive	15,500	24,469	F	1.579	18,000	24,469	F	1.359	(0.220)	No
Encino Drive to Sunset Drive	15,500	26,113	F	1.685	18,000	26,113	F	1.451	(0.234)	No

Footnotes:

- a. Capacities based on the *City of Escondido Roadway Classification* (See Table 4-3). For “without SAP” evaluation, the “with Project” increased capacity of 15,500 is used to reflect the additional northbound lane that will be provided along the Project frontage as part of the Project development.
- b. Average Daily Traffic
- c. Level of Service
- d. Volume to Capacity ratio
- e. Δ denotes the SAP-induced increase in the Volume to Capacity (V/C) ratio.

Table B shows a comparison of the Bear Valley Parkway/Encino Drive intersection both without and with the SAP. Traffic volumes are from the traffic impacts analysis (October 2016). This table shows that improved, LOS C or better operations are forecasted to occur with both Project traffic volumes and the SAP improvements for the Bear Valley Parkway/Encino Drive intersection. No significant impacts would occur with the SAP at this location.

TABLE B
INTERSECTION OPERATIONS COMPARISON

Intersection	Peak Hour	Existing + Cumulative Projects + Project (Without SAP)			Existing + Cumulative Projects + Project (With SAP)		
		Control Type	Delay ^a	LOS ^b	Control Type	Delay	LOS
Bear Valley Parkway / Encino Drive	AM	OWSC ^c	61.1	F	Traffic Signal	30.7	C
	PM		35.4	E		8.2	A

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. One-Way Stop Controlled intersection, Minor street left-turn delay is reported.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Conclusions

Development of the Specific Alignment Plan will ultimately result in increased capacity for Bear Valley Parkway as it is improved to four-lanes from the northern Project boundary to the existing four-lane section north of the Sunset Drive/ Ranchito Drive intersection. Interim improvements will not achieve the full four-lane section, but will increase the second northbound lane from south of the Project through the northern Project boundary, thereby still increasing capacity and operations. Improvements (including signalization) to the Bear Valley Parkway/ Encino Drive intersection will result in improved operations as well.

No significant capacity impacts would occur with development of the SAP as proposed.

cc: File

