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MEMORANDUM

Date: April 11, 2017

To: Andrea Howard, Parker Development

From: David B. Robinson, Fehr & Peers

Subject: **Serrano Village J (LOT H), J5, J6 and J7**

RS10-2829

Fehr & Peers has completed a trip generation evaluation of the land use changes proposed for Serrano Villages J5 and J6. This memorandum outlines the proposed land use modifications, our evaluation methodology, and findings.

Land Use Modifications

Table 1 compares approved and proposed land use for Serrano Village J5 and J6. Figure 1 shows the proposed changes. Villages J5 and J6 are located east of the Bass Lake Road/Serrano Parkway Intersection. As proposed, the Village J5 (Phase 2) neighborhood retail would be changed to single family residential and combined with Village J6.

TABLE 1
PROPOSED LAND USE – SERRANO VILLAGES J5 AND J6

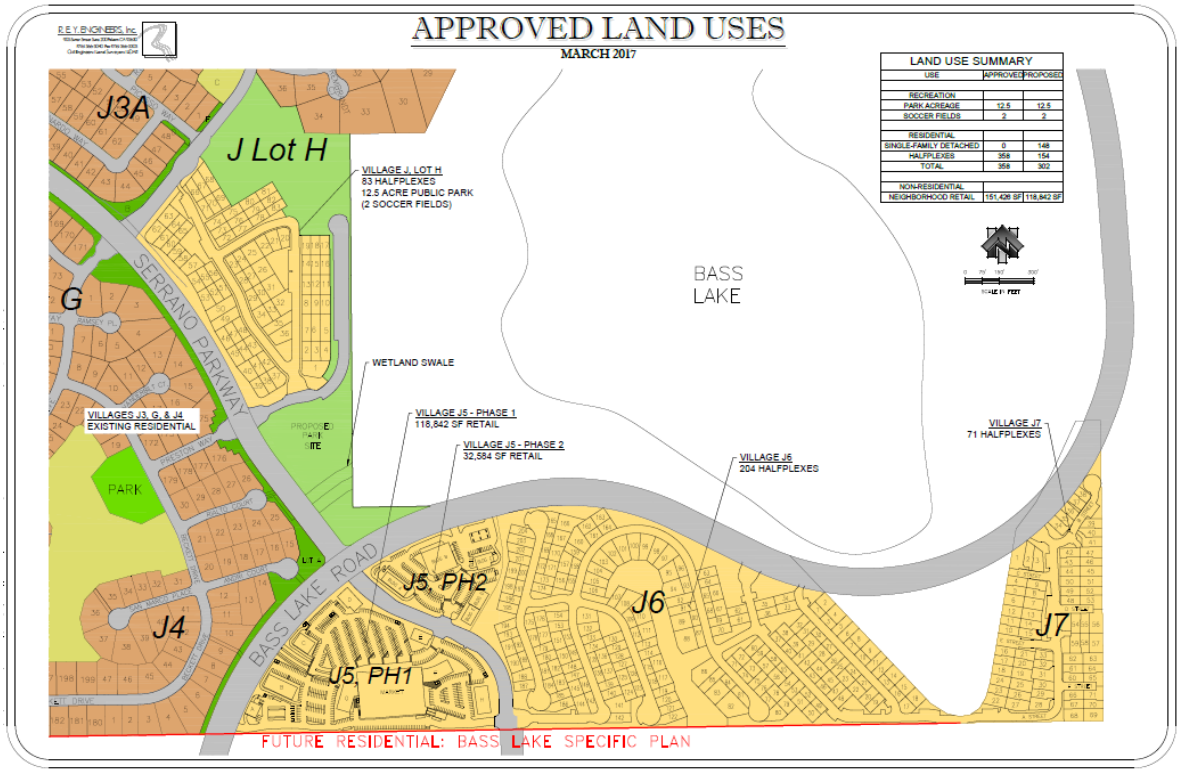
Village	Approved Land Use	Proposed Land Use
J5	Neighborhood Retail (151,426 Square Feet)	Neighborhood Retail (118,842 Square Feet)
J6	Single Family Residential (204 Halfplex Units)	Single Family Residential (148 Dwelling Units)

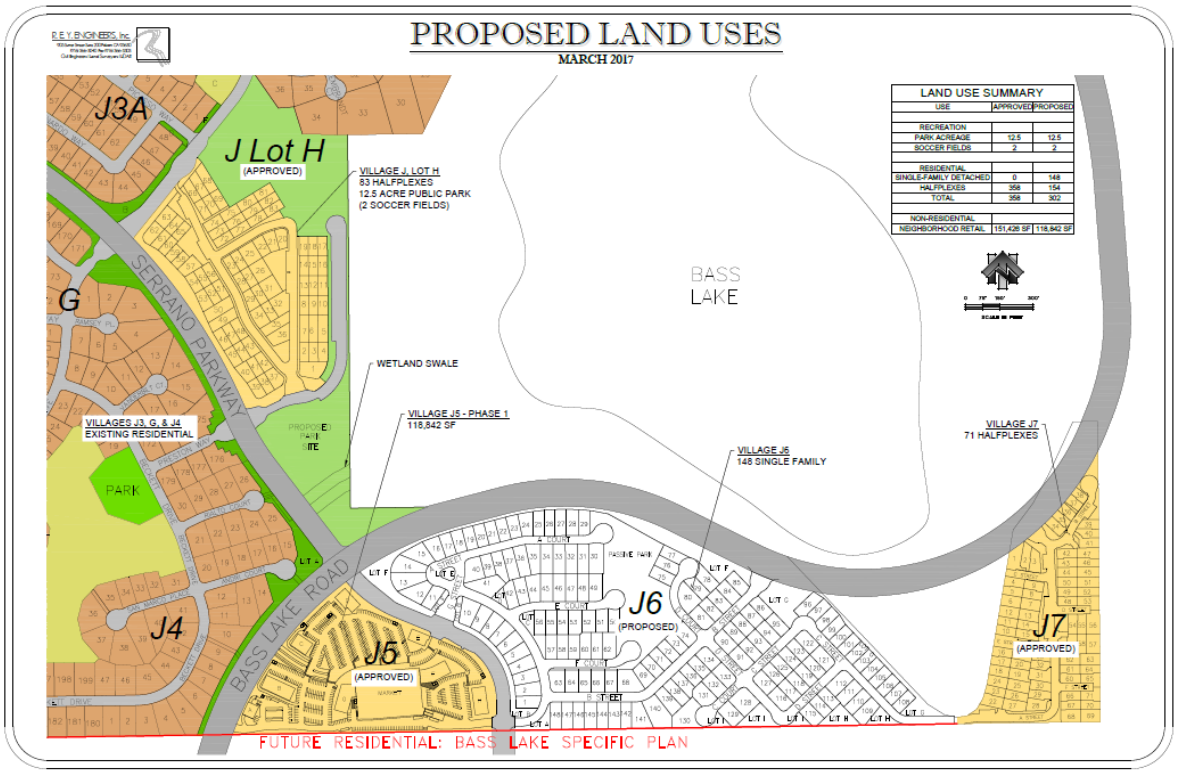
Source: Fehr & Peers, 2017

Evaluation Methodology

We prepared trip generation estimates for the approved and proposed land use summarized in Table 1, based on methodologies and trip generation rates presented in *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012), field-measured trip generation rates for the public park land use (for AM peak hour and daily conditions) and park use descriptions provided by El Dorado Hills CSD Recreation Director (for PM peak hour conditions).

Figure 1: Approved and Proposed Land Uses





Trip Generation Evaluation

Table 2 compares AM peak hour, PM peak hour, and daily trip generation for the approved and proposed land use. Detailed calculations and trip rate descriptions are included in Exhibit A. The comparison include trip generation for Village J (Lot H), Village J5, Village J6, and Village J7. As shown in Table 2, the proposed land use will result in fewer trips than the approved land use.

TABLE 2
TRIP GENERATION – WITH PROPOSED LAND USE

Land Use	Peak Hour		Daily
	AM	PM	
Approved	423	1,024	12,459
Proposed	361	886	10,674
Difference (Proposed – Approved)	- 62	- 139	- 1,785

Source: Fehr & Peers, 2017

Exhibit A
Trip Generation Comparison - Serrano Villages J (Lot H), J5, J6, J7

Village	Land Use	ITE Code	Amount	Units	Peak Hour AM Trip Rates In	AM Trip Rates Out	AM Trip Rates Total	AM Trip Generation In	AM Trip Generation Out	AM Trip Generation Total	Peak Hour PM Trip Rates In	PM Trip Rates Out	PM Trip Rates Total	PM Trip Generation In	PM Trip Generation Out	PM Trip Generation Total	Daily Trip Rates	Daily Trip Generation
Approved Land Use																		
J, Lot H	Single Family Residential[1]	210	83	DU	0.19	0.56	0.75	16	47	62	0.63	0.37	1.00	52	31	83	9.52	790
	Public Park[2,4]	-	12.5	Acres	0.60	0.48	1.08	8	6	14	6.26	2.81	9.07	78	35	113	36.55	457
J5	Neighborhood Retail[3]	820	151.4	1,000 Square Feet	0.82	0.50	1.33	124	76	201	2.51	2.72	5.22	380	411	791	58.73	8,892
J6	Single Family Residential[1]	210	204	DU	0.19	0.56	0.75	38	115	153	0.63	0.37	1.00	129	75	204	9.52	1,942
J7	Single Family Residential[1]	210	71	DU	0.19	0.56	0.75	13	40	53	0.63	0.37	1.00	45	26	71	9.52	676
				Subtotal				199	284	483				683	579	1,262		12,757
				Passby Trips (30% Applied to Neighborhood Commercial)				30	30	60				119	119	238		299
				Total (Net New Trips)				**169**	**254**	**423**				**564**	**460**	**1,024**		**12,459**
Proposed Land Use																		
J, Lot H	Single Family Residential[1]	210	83	DU	0.19	0.56	0.75	16	47	62	0.63	0.37	1.00	52	31	83	9.52	790
	Public Park[2,4]	-	12.5	Acres	0.60	0.48	1.08	8	6	14	6.26	2.81	9.07	78	35	113	36.55	457
J5	Neighborhood Retail[3]	820	118.8	1,000 Square Feet	0.90	0.55	1.46	107	66	173	2.72	2.94	5.66	323	350	672	63.94	7,596
J6	Single Family Residential[1]	210	148	DU	0.19	0.56	0.75	28	83	111	0.63	0.37	1.00	93	55	148	9.52	1,409
J7	Single Family Residential[1]	210	71	DU	0.19	0.56	0.75	13	40	53	0.63	0.37	1.00	45	26	71	9.52	676
				Subtotal				172	242	413				591	497	1,088		10,928
				Passby Trips (30% Applied to Neighborhood Commercial)				26	26	52				101	101	202		254
				Total (Net New Trips)				**146**	**216**	**361**				**490**	**396**	**886**		**10,674**
				Difference (Proposed Land Use - Approved Land Use)				**-24**	**-38**	**-62**				**-74**	**-64**	**-139**		**-1,785**

NOTES:

[1]Trip rates are from *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012)

[2]AM peak hour and daily trip generation for the public park land use is based on field measured trip generation at the Promontory (Alexandra Drive) and El Dorado Hills Community Pare (El Dorado Hills Boulevard at Harvard Way).

[3]Trip generation for Neighborhood Retail use the Fitted Curve Equations from the Shopping Center (820) AM, PM and Weekday curves from the Trip Generation Manual, *9th Edition* (Institute of Transportation Engineers, 2012). AM and PM are based on weekday, peak hour of adjacent street traffic, one hour between 7 and 9 a.m. and 4 and 6 p.m.

[4]PM peak hour trip generation for the public park land use is based use descriptions provided by El Dorado Hills CSD Recreation Director (March 4, 2015 email correspondence). Trip generation assumes four soccer teams practicing on large fields and three team practicing on small field, 20 players per team [(8x20 + 6x20) = 280 players] gives 280 players. No reduction for carpools was assumed, so the trip generation assumes 280 vehicles with inbound and outbound trips based on field meassured trip generation discussed in Footnote 2.