APPENDIX B

Traffic Study

MEMORANDUM

TO: Chris Hampson, Meridian Consultants LLC

FROM: Jonathan Chambers, P.E., and Richard Gibson, LEED Green Associate

DATE: February 2, 2016

RE: Intersection Operations and Queuing Review of the
Parking Structure at the
Agua Caliente Band of Cahuilla Indians Spa Resort Casino
Palm Springs, California **Ref:** J1396

Gibson Transportation Consulting, Inc. (GTC) was asked to review the potential effects on intersection operations and queuing resulting from the construction of an 850-space parking structure (Project) adjacent to the Agua Caliente Band of Cahuilla Indians Spa Resort Casino (SRC). The Project, located at 401 E. Amado Road in Palm Springs, California, would be built over two existing SRC surface parking lots that provide 171 parking spaces. It would provide a more convenient parking option for the SRC patrons.

The analysis contained herein is based on traffic count data and projections found in *Traffic Impact Analysis Section 14 Specific Plan Update* (IBI Group, December 7, 2013) (Section 14 Traffic Study), which analyzed the impacts of a long-range plan to fully develop Section 14, a 640-acre section of land within the Agua Caliente Indian Reservation and the City of Palm Springs (City).

PROJECT DESCRIPTION

The Project consists of construction of a four-level, three-bay, above-grade parking garage with approximately 850 spaces. It would provide both self-parking and valet parking options and would consolidate most SRC parking in a dedicated facility. Figure 1 presents a site plan of the proposed parking garage. Because the structure would be built over an existing handicap lot with 34 spaces and valet lot with 137 spaces, the net increase in parking on the Project Site would be approximately 679 spaces. The Project is not intended or expected to increase attendance or traffic to the SRC, but would reroute vehicular trips from the current parking lots to the Project.

The Project Site is bordered by Amado Road to the north, Calle El Segundo to the east, the SRC to the south, and Calle Encilia to the west. Self-parking access to the Project would be provided via a full access driveway on Amado Road. Valet parking drop-off and pick-up would occur on a one-way eastbound roadway between the Project and the SRC. The eastbound roadway serving the valet drop-off/pick-up area will be accessed via Calle Encilia and exit to Calle El Segundo. Valet circulation will occur on-site; the valet attendants will have access to the parking garage directly from the on-site eastbound roadway.

PROJECT TRAFFIC SHIFTS

As stated above, the Project would not increase traffic to the SRC. However, it would alter the travel patterns of SRC patrons, who would travel to and from the Project instead of traveling to and from the currently-used parking lots. To estimate these shifts, it was necessary to estimate the number of trips to and from the SRC during the peak periods, to identify how the various lots serving SRC patrons are currently used, and to estimate the basic regional distribution of trips to and from the SRC.

Trip Generation

Trip generation rates for medium-sized casinos are not available in any of the traditional sources such as *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012), nor did the SRC have available any employee or customer traffic data. Therefore, empirical trip generation rates derived from *Traffic Impact and Parking Study for the Hawaiian Gardens Casino Expansion Project, Hawaiian Gardens, CA* (KOA, July 2012) were utilized. The rates were based on empirical surveys of The Gardens Casino in Hawaiian Gardens, California. Table 1 presents a summary of the trip generation calculations for the SRC based on the rates found in the above study.

As shown in Table 1, the SRC has approximately 1,050 player positions, including slot machines with one player position and table games with multiple play positions. This results in total trip generation of 9,114 daily trips, including 252 midday peak hour trips (161 in, 91 out) and 504 afternoon peak hour trips (292 in, 212 out).

Current Parking Pattern

Figure 2 shows the location and most common users of the surface parking lots currently utilized by SRC employees and patrons. The surface lots are spread around the area, but generally within one block of the SRC. This information was utilized to distribute trips through the local study intersections to and from the various lots shown.

Regional Trip Distribution

Regional trip distribution for both Without Project and With Project scenarios is based on the location of local and regional residential and commercial centers from which the SRC would draw patrons and employees. Approximately 50% of trips were assumed to originate from the north along Indian Canyon Drive, approximately 30% from the northeast either locally or via Interstate 10, and 20% from the east and south via Tahquitz Canyon Way. These regional trip distribution patterns are consistent with the Section 14 Traffic Study.

<u>Project Traffic Shifts</u>

The Project will not result in any changes to the regional distribution of traffic, but would cause local shifts at study intersections as visitors travel to the new parking garage. As a result of the Project, there will be enough parking on-site to accommodate the needs of the SRC and, as such, all vehicles that currently park in surface parking lots will instead route to the parking garage. The results of those traffic shifts on study intersections and roadway segments are shown in Figure 3. As shown in the figure, traffic will shift toward the new parking garage and away from the surface parking lots.

TRAFFIC ANALYSIS METHODOLOGY

The Section 14 Traffic Study studied traffic conditions at intersections on weekdays during the mid-day peak hour (the busiest hour between 11:30 AM and 1:30 PM) and the afternoon commuter peak hour (the busiest hour between 4:00 PM and 6:00 PM). It also analyzed 24-hour volumes on a number of street segments. For the Project, a total of nine intersections and four street segments were studied using data from the Section 14 Traffic Study. Beyond these locations, the Project would have minimal effects, if any, on traffic patterns.

The traffic volume data in the Section 14 Traffic Study was collected between 2011 and 2013, and was adjusted by a growth factor of 2% annually and by a seasonal adjustment factor to represent winter (peak season) 2013 conditions. The “Existing Conditions” traffic volumes used in this analysis are identical to those used in the Section 14 Traffic Study.

Consistent with the Section 14 Traffic Study, the intersections were analyzed using the *2000 Highway Capacity Manual* (Transportation Research Board, 2000) (HCM 2000) methodology and the street segments were analyzed by calculating the daily volume-to-capacity (V/C) ratio using capacities based on roadway classification and number of lanes. Level of service (LOS) D is the minimum threshold for acceptable roadway, signalized and all-way stop controlled intersections, and two-way stop controlled minor approaches and major left turns operation in Palm Springs. Where an intersection or street segment is already projected to operate at LOS D or worse, the Project would have a significant impact if it were to worsen the operating condition.

Four traffic scenarios were analyzed:

- <u>Existing Conditions</u> – The Section 14 Traffic Study’s “Existing with Project Conditions” were utilized as the Existing Conditions for the purposes of this analysis. This reflects a condition in which Section 14 is assumed to be fully built out consistent with the Section 14 Specific Plan, and thus is the most conservative existing-year baseline condition upon which to assess potential impacts of the proposed Project. The Section 14 Traffic Study roadway and intersection cross sections under “Existing with Project Conditions” were used in this analysis except where today’s on-the-road conditions showed a different cross section or a different signal phasing. Figure 4 depicts the Existing Conditions traffic volumes for intersections and roadway segments.

- <u>Existing with Project Conditions</u> – Traffic shifts as a result of the Project were added to the Existing Conditions traffic volumes to project Existing with Project Conditions traffic volumes. All intersection and roadway segment configurations would remain unchanged from Existing Conditions. Figure 5 depicts the Existing with Project Conditions traffic volumes used in this scenario, in which the Project traffic volumes shown in Figure 3 are added to the Existing Conditions traffic volumes in Figure 4.

- Future Base Conditions – The Section 14 Traffic Study's "Year 2033 with Project Conditions" were utilized as the Future Base Conditions for the purposes of this analysis. This reflects a condition in which Section 14 is assumed to be fully built out consistent with the Section 14 Specific Plan, and is a conservative future-year baseline condition upon which to assess potential impacts of the proposed Project. The Year 2033 with Project" roadway and intersections cross sections were assumed consistent with the Section 14 Traffic Study. In some cases, the assumptions in the Year 2033 with Project Conditions represented a reduction in roadway capacity where road diets (roadway capacity reductions) or bicycle lanes were assumed to be implemented. Figure 6 depicts the Future Base Conditions traffic volumes for intersections and roadway segments.

- Future with Project Conditions – Traffic shifts as a result of the Project were added to the Future Base volumes to project Future with Project Conditions traffic volumes. All intersection and roadway segment configurations would remain unchanged from Future Base Conditions. Figure 7 depicts the Future with Project Conditions traffic volumes used in this scenario, in which the Project traffic volumes shown in Figure 3 are added to the Future Base Conditions traffic volumes in Figure 6.

TRAFFIC IMPACT ANALYSIS RESULTS

Table 2 summarizes the intersection impact analysis for Existing Conditions and Existing with Project Conditions at the nine study intersections. As Table 2 shows, all nine study intersections operate at LOS D or better with or without the traffic shifts resulting from the Project. The Project would not cause a significant impact to any study intersections under Existing with Project Conditions. The addition of the Project improves the LOS ranking at three intersections as a result of the reassignment of trips to the new parking garage:

1. Indian Canyon Drive & Tahquitz Canyon Way (LOS D to LOS C during the afternoon peak hour)

3. Calle El Segundo & Tahquitz Canyon Way (LOS D to LOS B during the afternoon peak hour)

9. Calle El Segundo & Alejo Road (Minor Approach) (LOS D to LOS C during the afternoon peak hour)

One intersection, Indian Canyon Drive & Amado Road, degrades from LOS B to LOS C as a result of the reassignment of garage traffic but the resulting LOS is within the acceptable level.

Table 3 summarizes the intersection impact analysis for Future Base Conditions and Future with Project Conditions at the nine study intersections. As Table 3 shows, all nine study intersections operate at LOS D or better with or without the traffic shifts resulting from the Project. The Project would not cause a significant impact to any study intersections under Future with Project Conditions. Two intersections improve as a result of the reassignment of Project trips:

6. Calle El Segundo & Amado Road (LOS B to LOS A during the midday peak hour)

9. Calle El Segundo & Alejo Road (minor approach) (LOS E to LOS D during the afternoon peak hour)

Intersection 9 does not meet the Level of Service D or better criterion under Future Base Conditions which is consistent with the conclusions of the Section 14 Traffic Study. With the reassignment of traffic due to the Project, the intersection would move back into compliance at LOS D under Future with Project Conditions.

No intersections would experience a degradation of Level of Service as a result of the Project under Future with Project Conditions.

Table 4 summarizes the street segment impact analysis for Existing Conditions and Existing with Project Conditions at the four analyzed street segments. As Table 4 shows, all four analyzed street segments operate at LOS C or better with or without the traffic shifts resulting from the Project. One segment along Amado Road degrades from LOS A to LOS C, but remains within the LOS D or better criterion. The Project would not cause a significant impact to any study roadway segment under Existing with Project Conditions.

Table 5 summarizes the street segment impact analysis for Future Base Conditions and Future with Project Conditions at the four analyzed street segments. As Table 5 shows, the Amado Road Segment degrades from LOS A to LOS C, but remains within the LOS D or better criterion. Three of the four analyzed street segments operate at LOS C or better with or without the traffic shifts resulting from the Project. Under Future Base Conditions, the segment of Alejo Road east of Indian Canyon Drive would operate at LOS E, consistent with the Section 14 Traffic Study conclusions. However, the redistribution of traffic associated with the Project would actually decrease traffic volumes and the resulting V/C ratio at this segment and, therefore, the Project would not cause a significant impact to any analyzed roadway segment under Future with Project Conditions.

INTERSECTION QUEUING

In addition to the traffic impact analysis described above, queuing at the study intersections was analyzed to determine whether the Project traffic shifts would result in substantial increases to queue lengths. The queue lengths were assessed using Synchro 7 analysis software implementing the HCM 2000 methodology.

Table 6 summarizes the results of the queue analysis for Existing Conditions and Existing with Project Conditions. As shown in Table 6, the storage capacity of turning movements and approaches is adequate to accommodate the 95^{th} percentile queue length (the longest anticipated queue in 95 of 100 peak hours) at all but three locations. The following movements currently have queue lengths longer than the provided storage capacity:

- Indian Canyon Drive & Tahquitz Canyon Way (eastbound left during the midday and afternoon peak hours)
- Calle El Segundo & Tahquitz Canyon Way (westbound left during the afternoon peak hour)
- Indian Canyon Drive & Alejo Road (eastbound left during the midday peak hour)

However, as Table 6 shows, the shifts in traffic patterns associated with the Project actually reduce the queue lengths at each of the three locations above. The Calle El Segundo & Tahquitz Canyon Way intersection actually improves the Future with Project Conditions to the extent that the westbound left-turn lane no longer exceeds the available storage length as a result of the Project's traffic reassignment. As such, the Project does not have a significant impact on queue lengths at study intersections.

GARAGE QUEUING

The primary valet access to the garage would be from Calle Encilla with two full lanes across the entire length of the property providing access to the valet area. A third lane provides a storage bay out of the movement of traffic for valet pick-up and drop-off. In busy times, the valet design offers flexibility to drop off vehicles on the west side of the valet area and pick-up on the east side of the area. With a sufficient number of valet operators, the length of the valet area should result in an operation that does not back up onto Calle Encilla.

The primary public self-parking access would be from a two-way driveway on Amado Road approximately mid-block between Calle Encilla and Calle El Segundo. The driveway is proposed to have one lane inbound and one lane outbound. As long as the parking in the garage remains free of charge, the inbound and outbound capacity of the single lane would be sufficient to accommodate the anticipated traffic flows. The parking aisle along the inbound/outbound lane should be used for employees or long-tem valet parking so that the spaces do not turn over; which would disrupt the inbound/outbound flow. If parking control gates are ever needed, they should be placed near the bottom of the express ramp to Level 2. This would maximize the storage for both inbound and outbound traffic to make sure that the queues do not interfere with traffic on Amado Road.

A secondary entrance/exit onto Calle El Segundo offers the garage operator the flexibility to relieve both the valet and the self-parking areas. Again, this flexibility would ensure that inbound queues do not back up onto the adjacent streets.

SUMMARY AND CONCLUSION

- The Project consists of construction of an 850-space parking structure adjacent to the Agua Caliente Band of Cahuilla Indians Spa Resort Casino in Palm Springs in order to consolidate SRC parking in one location.
- The Project will not generate additional traffic but, rather, redistribute existing traffic from nearby surface parking lots to the new parking garage.

- Based on empirical surveys of other casinos, the total trip generation of the SRC is estimated to be 9,114 daily trips, including 252 midday peak hour trips (161 in, 91 out) and 504 afternoon peak hour trips (292 in, 212 out).

- The Project would not result in significant impacts to any of the nine intersections or four roadway segments analyzed. Additionally, it would not substantially worsen queue lengths at any of the analyzed intersections. Rather, operational improvements can be expected at many study area facilities due to the redistribution of traffic.

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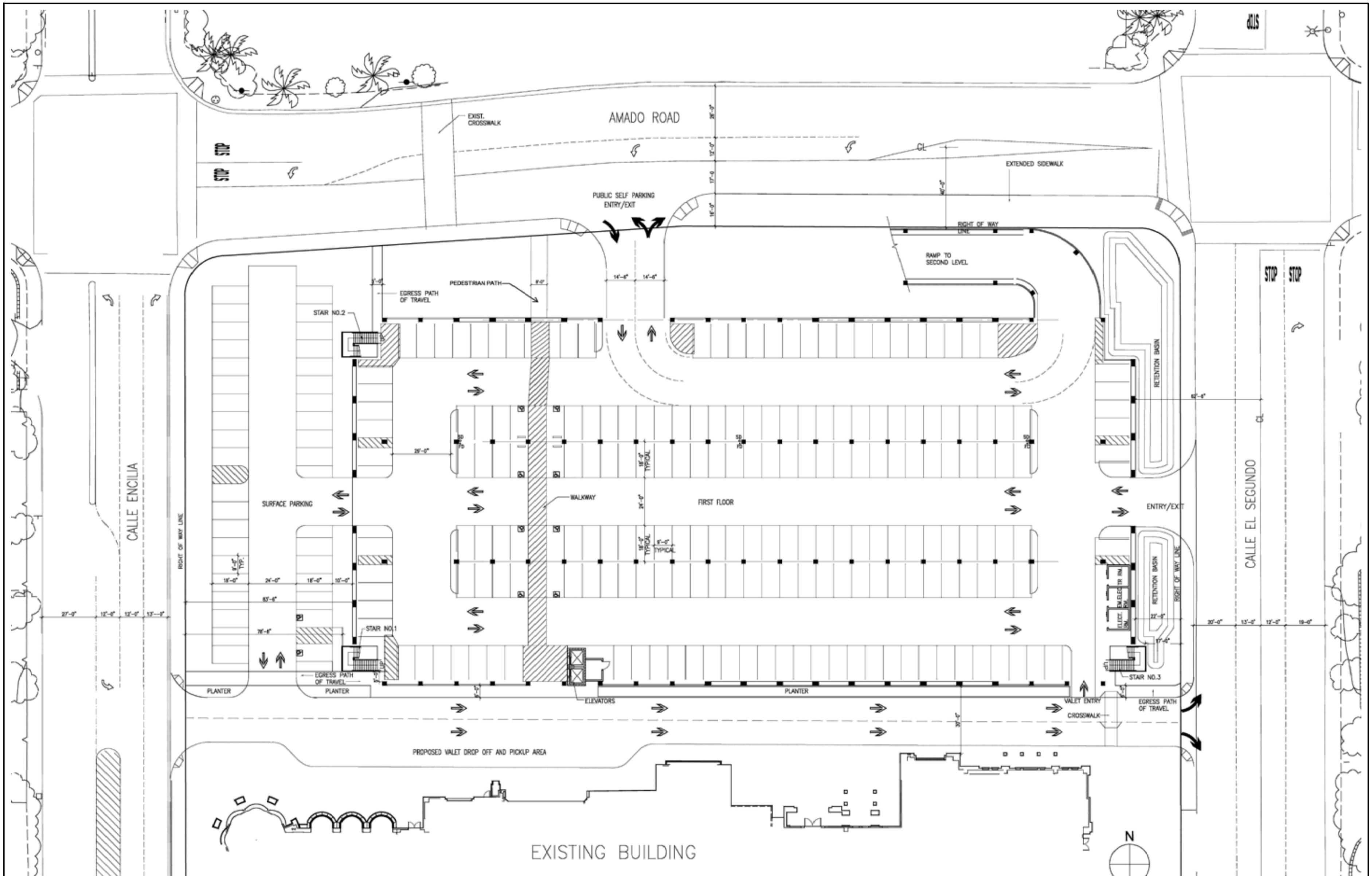
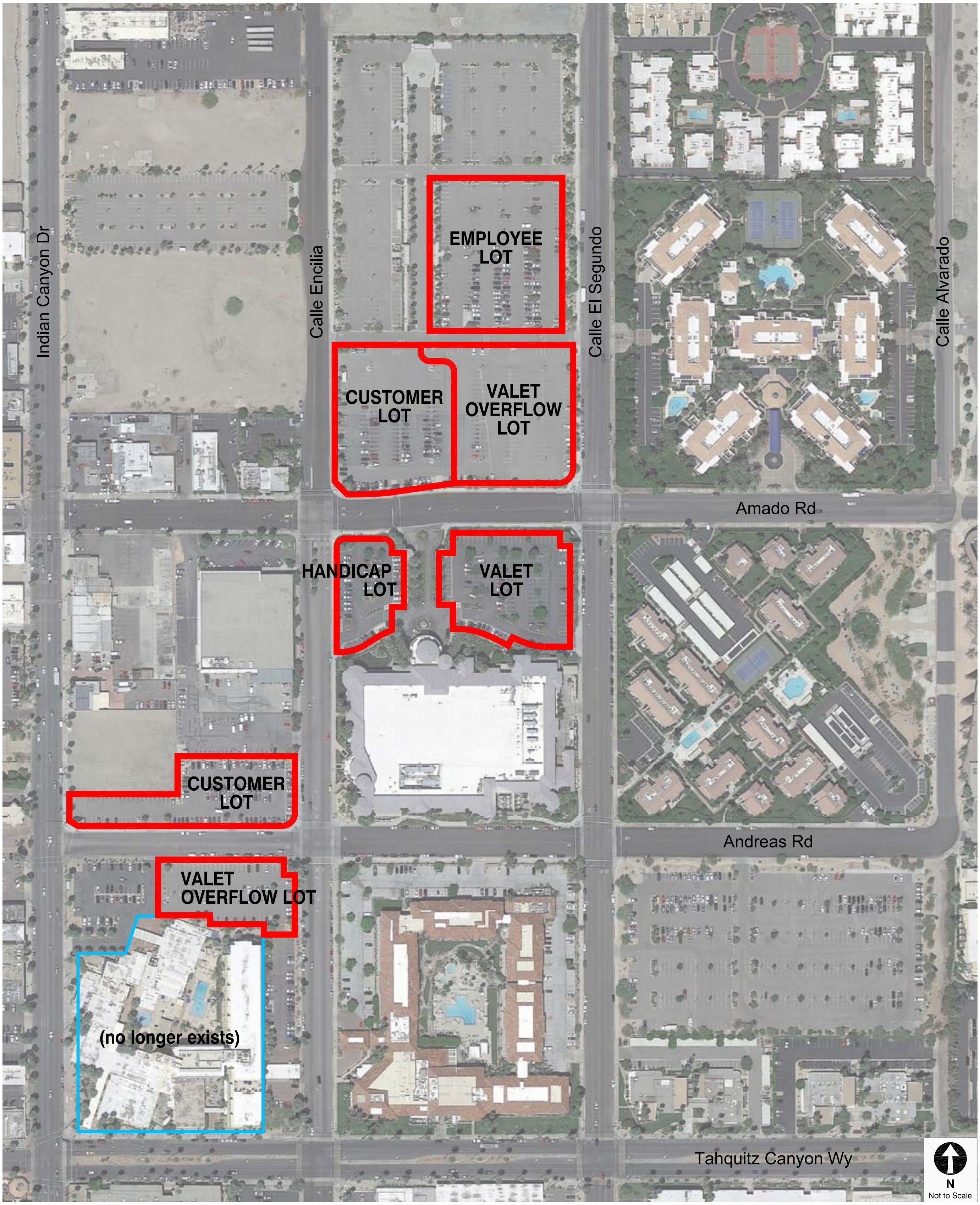


Source: Parking Design Associates, December 2015.

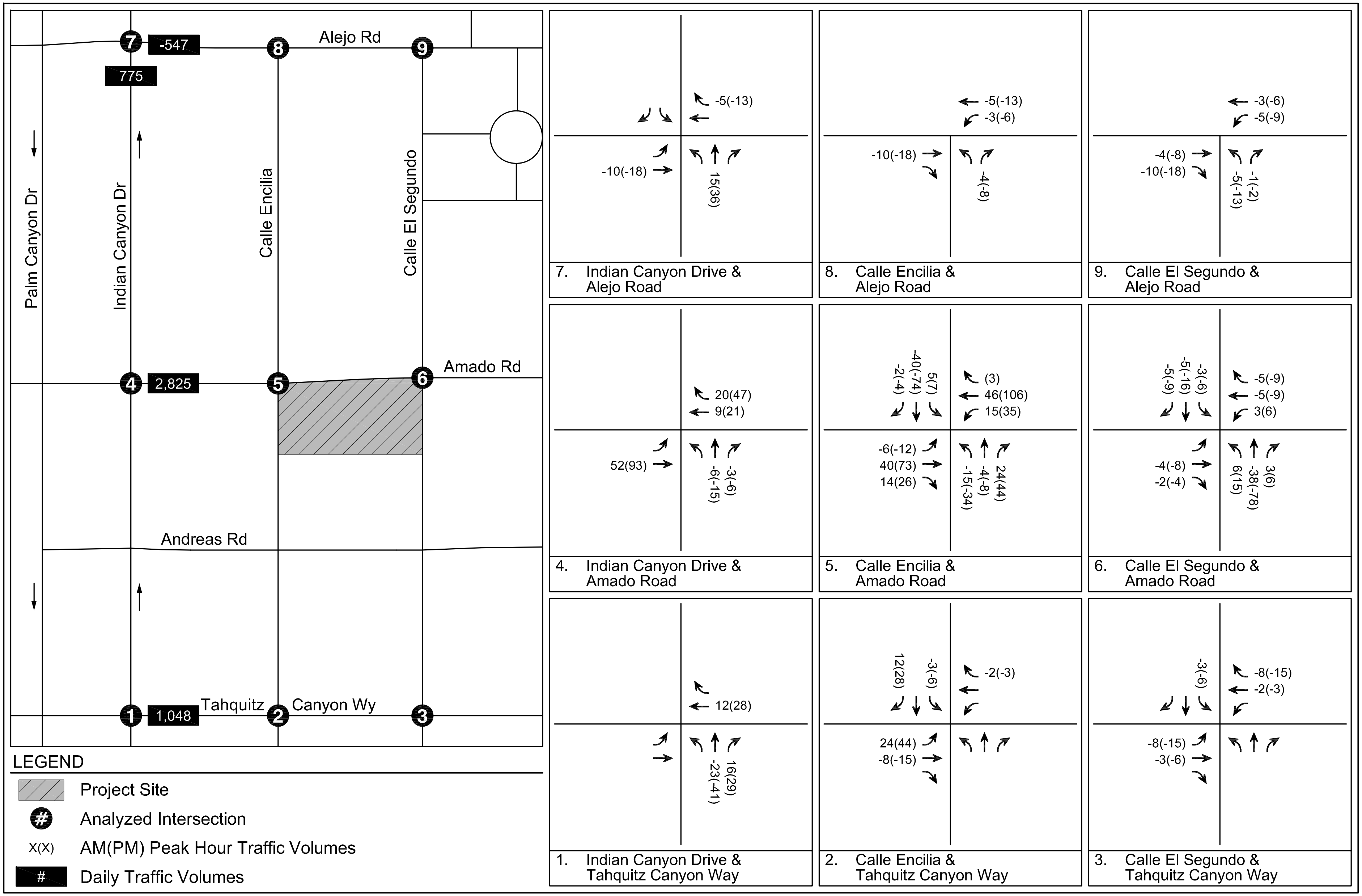
SITE PLAN

FIGURE 1

Gibson
transportation consulting, inc.

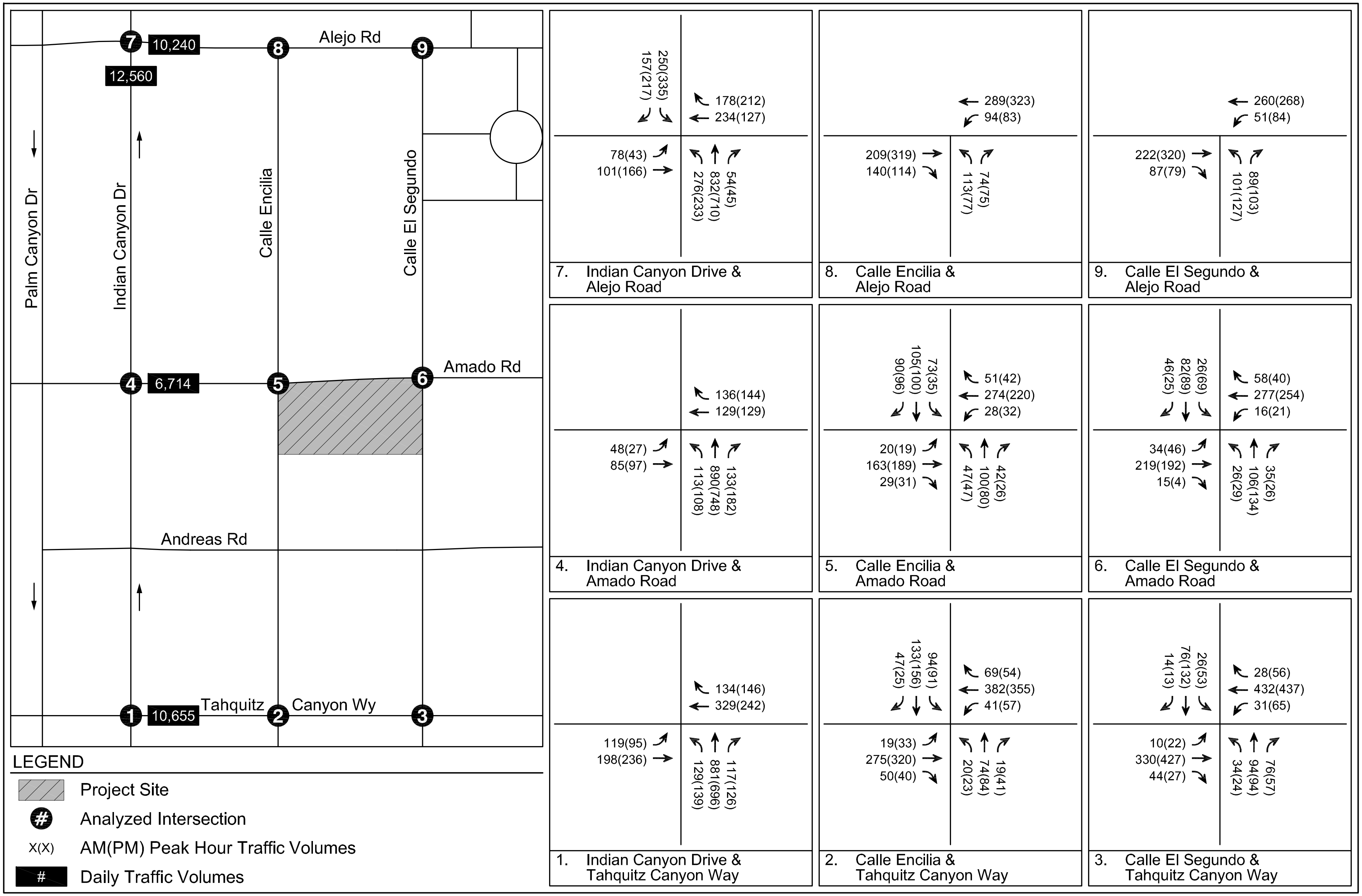


EXISTING SURFACE PARKING LOTS	FIGURE 2



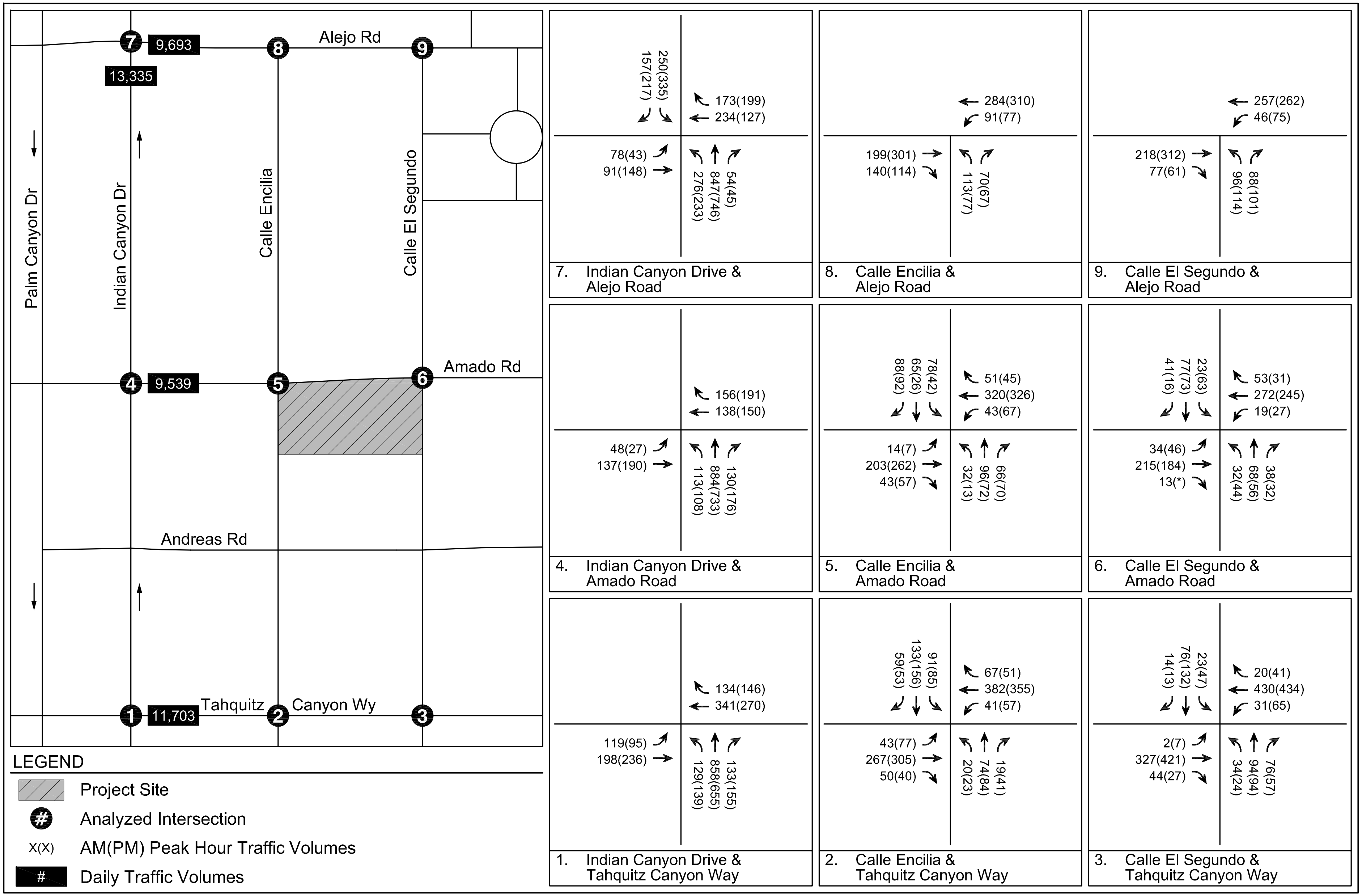
PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE 3



EXISTING CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

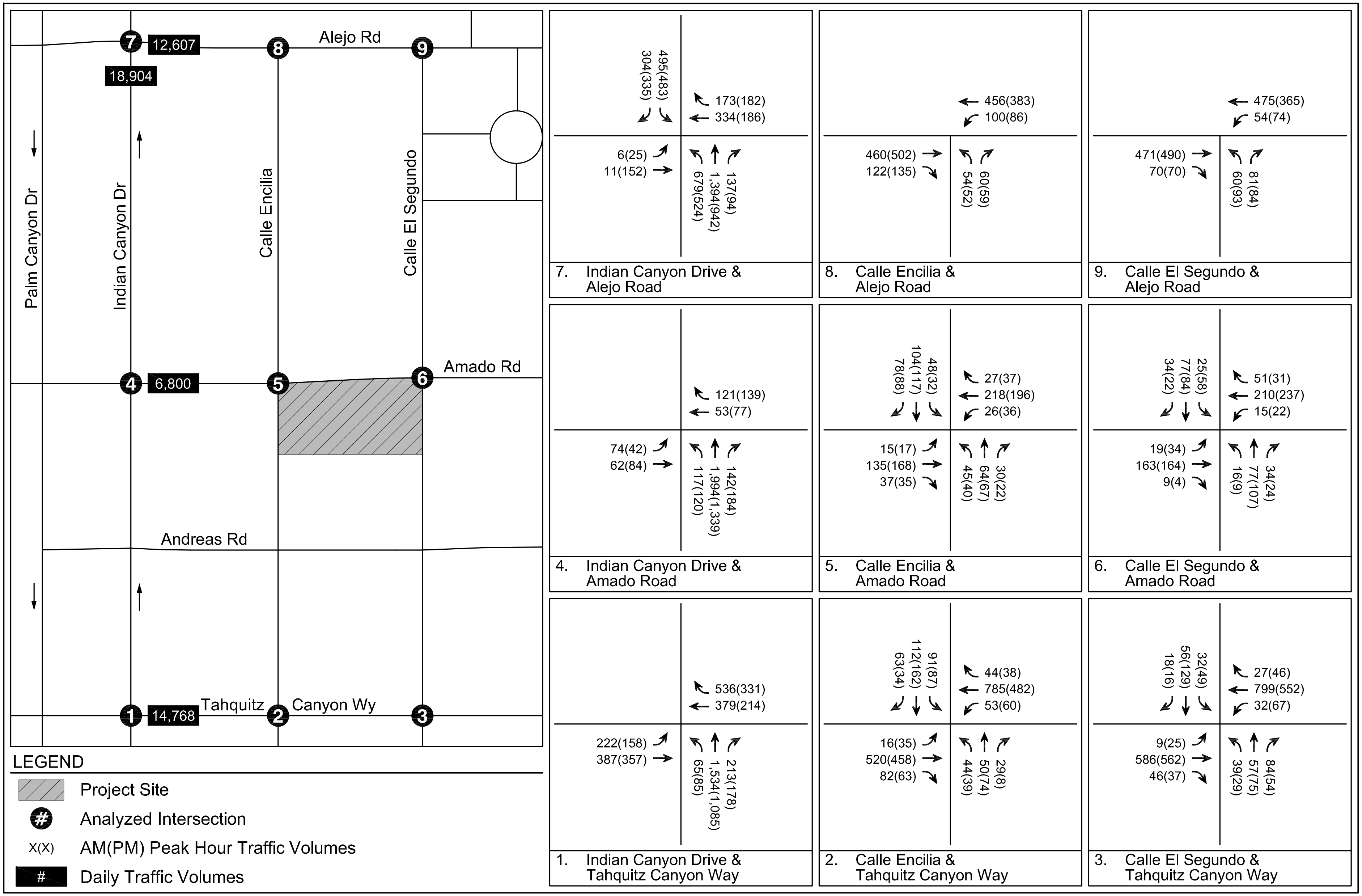
FIGURE 4



EXISTING WITH PROJECT CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

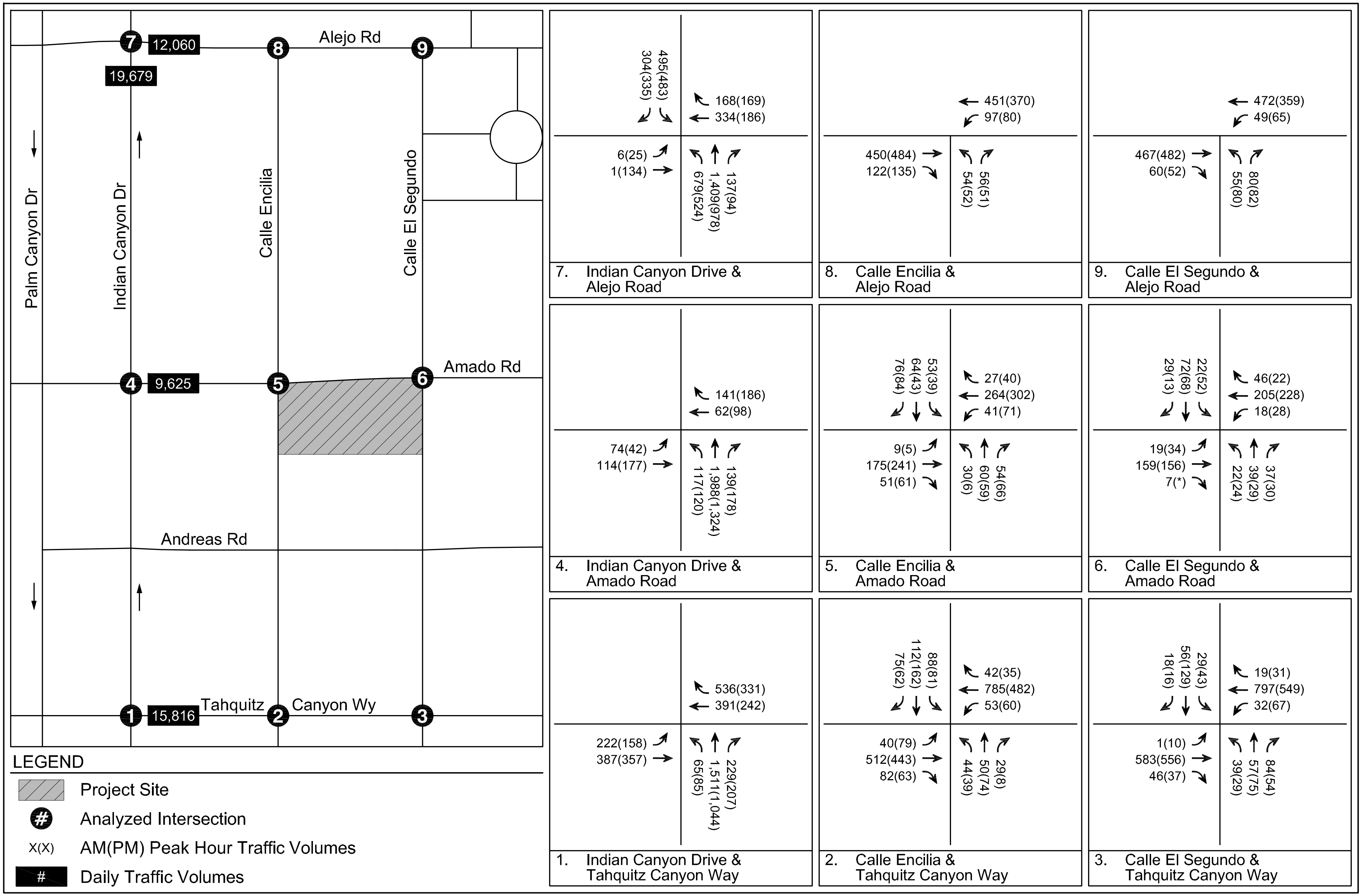
FIGURE 5

Gibson transportation consulting, inc.



FUTURE BASE CONDITIONS (YEAR 2033)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 6



FUTURE WITH PROJECT CONDITIONS (YEAR 2033)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 7

TABLE 1
PROJECT TRIP GENERATION ESTIMATES

TRIP GENERATION RATES [a]								
Land Use	**Rate**	**Daily**	**Midday Peak Hour**			**Afternoon Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Casino	per player position	8.68	64%	36%	0.24	58%	42%	0.48

TRIP GENERATION ESTIMATES								
Land Use	**Size**	**Daily**	**Midday Peak Hour**			**Afternoon Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Casino	1,050 player positions	9,114	161	91	252	292	212	504

Notes:
[a] Trip generation rates derived from *Traffic Impact and Parking Study for the Hawaiian Gardens Casino Expansion Project*, *Hawaiian Gardens, CA* (KOA, July 2012).

TABLE 2
EXISTING WITH PROJECT CONDITIONS
INTERSECTION LEVEL OF SERVICE

No.	Control Type [a]	Intersection	Peak Hour	Movement	Existing Conditions		Existing with Project Conditions	
					Delay [b]	LOS	Delay [b]	LOS
1.	Signal	Indian Canyon Drive & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	27.4 36.4	C D	26.9 26.0	C C
2.	Signal	Calle Encilia & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	14.7 24.7	B C	15.5 26.0	B C
3.	Signal	Calle El Segundo & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	37.0 38.5	D D	37.2 16.2	D B
4.	Signal	Indian Canyon Drive & Amado Road	Midday Afternoon	Intersection Intersection	11.8 16.0	B B	13.5 20.0	B C
5.	AWSC	Calle Encilia & Amado Road	Midday Afternoon	Intersection Intersection	19.3 15.1	C C	23.5 22.4	C C
6.	AWSC	Calle El Segundo & Amado Road	Midday Afternoon	Intersection Intersection	13.6 13.5	B B	12.7 11.9	B B
7.	Signal	Indian Canyon Drive & Alejo Road	Midday Afternoon	Intersection Intersection	22.1 18.7	C B	21.6 18.0	C B
8.	TWSC	Calle Encilia & Alejo Road	Midday Afternoon	Minor Approach Major Left Minor Approach Major Left	22.9 8.3 22.3 8.6	C A C A	21.8 8.3 20.6 8.5	C A C A
9.	TWSC	Calle El Segundo & Alejo Road	Midday Afternoon	Minor Approach Major Left Minor Approach Major Left	16.9 8.1 29.3 8.5	C A D A	16.0 8.0 23.7 8.4	C A C A

Notes:

[a] Signal = signalized intersection; AWSC = All-way stop controlled intersection; TWSC = Two-way stop controlled intersection.

[b] The average delay is reported for signalized and AWSC intersections; for TWSC intersections the delay of the minor approach and worst-case major lefts is reported.

TABLE 3
FUTURE WITH PROJECT CONDITIONS
INTERSECTION LEVEL OF SERVICE

No.	Control Type [a]	Intersection	Peak Hour	Movement	Future Base Conditions		Future with Project Conditions	
					Delay [b]	LOS	Delay [b]	LOS
1.	Signal	Indian Canyon Drive & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	25.3 20.3	C C	25.4 22.0	C C
2.	Signal	Calle Encilia & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	13.1 20.4	B C	13.4 24.2	B C
3.	Signal	Calle El Segundo & Tahquitz Canyon Way	Midday Afternoon	Intersection Intersection	30.9 45.3	C D	30.8 45.4	C D
4.	Signal	Indian Canyon Drive & Amado Road	Midday Afternoon	Intersection Intersection	10.4 11.6	B B	12.2 15.8	B B
5.	AWSC	Calle Encilia & Amado Road	Midday Afternoon	Intersection Intersection	11.9 12.0	B B	12.9 15.0	B B
6.	AWSC	Calle El Segundo & Amado Road	Midday Afternoon	Intersection Intersection	10.4 11.4	B B	10.0 10.3	A B
7.	Signal	Indian Canyon Drive & Alejo Road	Midday Afternoon	Intersection Intersection	48.8 32.5	D C	50.0 24.1	D C
8.	TWSC	Calle Encilia & Alejo Road	Midday	Minor Approach Major Left	33.8 9.3	D A	31.9 9.2	D A
			Afternoon	Minor Approach Major Left	30.1 9.4	D A	27.5 9.3	D A
9.	TWSC	Calle El Segundo & Alejo Road	Midday	Minor Approach Major Left	28.4 8.9	D A	25.5 8.8	D A
			Afternoon	Minor Approach Major Left	40.3 9.0	E A	30.7 8.9	D A

Notes:

[a] Signal = signalized intersection; AWSC = All-way stop controlled intersection; TWSC = Two-way stop controlled intersection.

[b] The average delay is reported for signalized and AWSC intersections; for TWSC intersections the delay of the minor approach and worst-case major lefts is reported.

TABLE 4
EXISTING CONDITIONS
ROADWAY SEGMENT LEVEL OF SERVICE

Roadway Segment	Lanes [a]	Capacity [b]	Existing Conditions			Existing with Project Conditions			
			Daily Voume	V/C Ratio	LOS	Project Traffic	Daily Voume	V/C Ratio	LOS
Tahquitz Canyon Way *east of Indian Canyon Drive*	4D	35,900	10,655	0.297	A	1,048	11,703	0.326	A
Amado Road *east of Indian Canyon Drive*	2U	13,000	6,714	0.516	A	2,825	9,539	0.734	C
Alejo Road *east of Indian Canyon Drive*	2U	13,000	10,240	0.788	C	(547)	9,693	0.746	C
Indian Canyon Drive *south of Alejo Road*	3D	35,900	12,560	0.350	A	775	13,335	0.371	A

Notes:

[a] 4D = 4-lane divided roadway; 2U = 2-lane undivided roadway; 3D = 3-lane divided roadway.

[b] Capacities per Section 14 Traffic Study.

TABLE 5
FUTURE CONDITIONS
ROADWAY SEGMENT LEVEL OF SERVICE

Roadway Segment	**Lanes** [a]	**Capacity** [b]	**Future Base Conditions**			**Future with Project Conditions**			
			Daily Voume	**V/C Ratio**	**LOS**	**Project Traffic**	**Daily Voume**	**V/C Ratio**	**LOS**
Tahquitz Canyon Way *east of Indian Canyon Drive*	4D	35,900	14,768	0.411	A	1,048	15,816	0.441	A
Amado Road *east of Indian Canyon Drive*	2U	13,000	6,800	0.523	A	2,825	9,625	0.740	C
Alejo Road *east of Indian Canyon Drive*	2U	13,000	**12,607**	**0.970**	**E**	**(547)**	**12,060**	**0.928**	**E**
Indian Canyon Drive *south of Alejo Road*	3D	26,925	18,904	0.702	C	775	19,679	0.731	C

Notes:

[a] 4D = 4-lane divided roadway; 2U = 2-lane undivided roadway; 3D = 3-lane divided roadway.

[b] Capacities per Section 14 Traffic Study.

TABLE 6
EXISTING QUEUE LENGTHS

No.	Intersection	Peak Hour	Movement [a]	Storage Length Available		Existing Conditions			Existing with Project Conditions			
				Feet [b]	Approximate Number of Cars [c]	95th Percentile Queue Length: Feet	95th Percentile Queue Length: Approx. Number of Cars	Exceeds Capacity	95th Percentile Queue Length: Feet	95th Percentile Queue Length: Approx. Number of Cars	95th Percentile Queue Length: Change in Feet	Exceeds Capacity
1.	Indian Canyon Drive & Tahquiz Canyon Way	Midday	Eastbound Left	100	4.0	**219**	**8.8**	**YES**	**218**	**8.7**	**(1)**	**YES**
		Afternoon	Eastbound Left	100	4.0	**177**	**7.1**	**YES**	**172**	**6.9**	**(5)**	**YES**
2.	Calle Encilia & Tahquitz Canyon Way	Midday	Eastbound Left	130	5.2	26	1.0	NO	78	3.1	52	NO
			Westbound Left	130	5.2	12	0.5	NO	12	0.5	0	NO
			Northbound Left	100	4.0	13	0.5	NO	13	0.5	0	NO
			Northbound Right	100	4.0	8	0.3	NO	8	0.3	0	NO
			Southbound Left	100	4.0	44	1.8	NO	43	1.7	(1)	NO
			Southbound Right	100	4.0	12	0.5	NO	13	0.5	1	NO
		Afternoon	Eastbound Left	130	5.2	44	1.8	NO	102	4.1	58	NO
			Westbound Left	130	5.2	94	3.8	NO	12	0.5	(82)	NO
			Northbound Left	100	4.0	12	0.5	NO	14	0.6	2	NO
			Northbound Right	100	4.0	10	0.4	NO	11	0.4	1	NO
			Southbound Left	100	4.0	33	1.3	NO	38	1.5	5	NO
			Southbound Right	100	4.0	8	0.3	NO	12	0.5	4	NO
3.	Calle El Segundo & Tahquitz Canyon Way	Midday	Eastbound Left	100	4.0	14	0.6	NO	5	0.2	(9)	NO
			Westbound Left	100	4.0	52	2.1	NO	52	2.1	0	NO
		Afternoon	Eastbound Left	100	4.0	45	1.8	NO	15	0.6	(30)	NO
			Westbound Left	100	4.0	**111**	**4.4**	**YES**	49	2.0	(62)	NO
4.	Indian Canyon Drive & Amado Road	Midday	Eastbound Left	100	4.0	60	2.4	NO	60	2.4	0	NO
			Westbound Right	100	4.0	72	2.9	NO	96	3.8	24	NO
		Afternoon	Eastbound Left	100	4.0	50	2.0	NO	47	1.9	(3)	NO
			Westbound Right	100	4.0	59	2.4	NO	96	3.8	37	NO
5.	Calle Encilia & Amado Road	Midday	Eastbound Left	55	2.2	5	0.2	NO	3	0.1	(3)	NO
			Westbound Left	55	2.2	5	0.2	NO	8	0.3	3	NO
			Northbound Left	115	4.6	10	0.4	NO	8	0.3	(3)	NO
			Northbound Right	115	4.6	8	0.3	NO	13	0.5	5	NO
		Afternoon	Eastbound Left	55	2.2	3	0.1	NO	3	0.1	0	NO
			Westbound Left	55	2.2	5	0.2	NO	13	0.5	8	NO
			Northbound Left	115	4.6	10	0.4	NO	3	0.1	(8)	NO
			Northbound Right	115	4.6	5	0.2	NO	13	0.5	8	NO
6.	Calle El Segundo & Amado Road	Midday	Northbound Right	580	23.2	5	0.2	NO	5	0.2	0	NO
		Afternoon	Northbound Right	580	23.2	3	0.1	NO	5	0.2	3	NO
7.	Indian Canyon Drive & Alejo Road	Midday	Eastbound Left	120	4.8	**164**	**6.6**	**YES**	**163**	**6.5**	**(1)**	**YES**
			Northbound Left	700	28.0	104	4.2	NO	104	4.2	0	NO
			Southbound Left	480	19.2	317	12.7	NO	324	13.0	7	NO
			Southbound Right	480	19.2	18	0.7	NO	18	0.7	0	NO
		Afternoon	Eastbound Left	120	4.8	99	4.0	NO	96	3.8	(3)	NO
			Northbound Left	700	28.0	36	1.4	NO	46	1.8	10	NO
			Southbound Left	480	19.2	354	14.2	NO	409	16.4	55	NO
			Southbound Right	480	19.2	16	0.6	NO	16	0.6	0	NO
8. [d]	Calle Encilia & Alejo Road	Midday	Northbound	200	8.0	70	2.8	NO	65	2.6	(5)	NO
		Afternoon	Northbound	200	8.0	55	2.2	NO	48	1.9	(8)	NO
9. [d]	Calle El Segundo & Alejo Road	Midday	Northbound	280	11.2	50	2.0	NO	45	1.8	(5)	NO
		Afternoon	Northbound	280	11.2	108	4.3	NO	83	3.3	(25)	NO

Notes:
[a] Includes all study intersection turn movements with exclusive lanes.
[b] Storage length based on length of turn pocket for turn lanes and distance to nearest intersection for through movements.
[c] Calculated based on 25 feet per car including gaps between cars.
[d] Intersectio has no exclusive turn movements; minor approach queues reported.