

TRAFFIC IMPACT ANALYSIS REPORT
ALBERHILL VILLAGES SPECIFIC PLAN

Lake Elsinore, California
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(Update of July 14, 2015 Report)

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EXECUTIVE SUMMARY

- The Alberhill Villages Specific Plan (“Project”) area is generally located along the south side of the I-15 Freeway and west of Lake Street, City of Lake Elsinore, California. The proposed Project consists of a mixed-use master plan with approximately 19.5 acres of active parks, 36.8 acres of city passive parks, 4,370 apartments, 1,200 condominiums, 2,675 single family residences, two churches with schools for 1,200 students, an elementary school for 850 students, a university for 6,000 students, 1,621,000 SF of commercial use and 886,000 SF of office use. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years.
- The proposed Project is forecast to generate 150,415 gross Daily trips (one half arriving and one half departing), with 9,927 gross trips (4,731 inbound, 5,196 outbound) produced in the AM peak hour and 14,575 gross trips (7,389 inbound, 7,186 outbound) produced in the PM peak hour. It should be noted that these are gross trips without the application of internal capture trip or pass-by trip reduction factors. The analyses in the preceding sections of this report for the General Plan Buildout (without and with Project) are based on traffic volumes directly obtained from most current City of Lake Elsinore Traffic Model. In addition, the General Plan Buildout (without and with Project) volumes that have been directly obtained from the most current City of Lake Elsinore Traffic Model assume different variables in determining the trip generation for different land uses. Even though the trips generated for the Project by the traffic model are not exactly same as the ITE forecast trip generation, they are similar. The traffic model takes into account the internal capture and generates and distributes the external traffic volumes accordingly.
- Thirteen (13) key existing study intersections were designated for evaluation for the Existing analysis, nineteen (19) key study intersections were designated for evaluation for the General Plan Buildout Without Project analysis and twenty-seven (27) key study intersections were designated for evaluation for the General Plan Amendment Buildout With Project analysis. The key area intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows:
 1. Horsethief Canyon Road at Temescal Canyon Road
 2. Lake Street at I-15 Northbound Ramps
 3. Lake Street at I-15 Southbound Ramps
 4. Lake Street at Temescal Canyon Road
 5. Lake Street at Nichols Road
 6. Lake Street at Alberhill Ranch Road
 7. Lake Street at Mountain Street
 8. Lake Street/Grand Avenue at Lakeshore Drive

9. Grand Avenue at Lincoln Street
10. Terra Cotta Road at Lakeshore Drive
11. Collier Avenue at Nichols Road
12. I-15 Southbound Ramps at Nichols Road
13. I-15 Northbound Ramps at Nichols Road
14. Lincoln Street at A Street/E Street (General Plan Scenario)
15. Lincoln Street at B Street/F Street (North) (General Plan Scenario)
16. Lincoln Street at F Street (South) (General Plan Scenario)
17. Lincoln Street at Nichols Road (General Plan Scenario)
18. C Street at B Street (General Plan Scenario)
19. C Street at Nichols Road (General Plan Scenario)
20. D Street at Nichols Road (General Plan Scenario)
21. Lake Street at A Street (General Plan Scenario)
22. Lake Street at B Street (General Plan Scenario)
23. Lake Street at D Street (North) (General Plan Scenario)
24. Lake Street at D Street (South) (General Plan Scenario)
25. Alberhill Ranch Road at Nichols Road (General Plan Scenario)
26. Terra Cotta Road at Nichols Road (General Plan Scenario)
27. Lincoln Street at Temescal Canyon Road

➤ Nine (9) existing key roadway segments were designated for evaluation for the Existing analysis, twenty-three (23) key roadway segments were designated for evaluation for the General Plan Buildout Without Project analysis and thirty-two (32) key roadway segments were designated for evaluation for the General Plan Buildout With Project analysis. The key area roadway segments selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

1. Temescal Canyon Rd *between* Horsethief Canyon Rd and I-15 Freeway [E/W]
2. Lake St *between* I-15 SB Ramps and Temescal Canyon Rd [N/S]
3. Lake St *between* Temescal Canyon Rd and Nichols Rd [N/S]
4. Lake St *between* Nichols Rd and Alberhill Ranch Rd [N/S]
5. Lake St *between* Alberhill Ranch Rd and Mountain St [N/S]
6. Lake St *between* Mountain St and Lakeshore Drive [N/S]
7. Grand Avenue *between* Lakeshore Drive and Lincoln St [N/S]
8. Lakeshore Drive *between* Lake St/Grand Avenue and Terra Cotta Rd [E/W]
9. Nichols Rd *between* Lake St and Alberhill Ranch Rd [E/W] (General Plan Scenario)
10. Nichols Rd *between* Alberhill Ranch Rd and Terra Cotta Rd [E/W] (General Plan Scenario)
11. Nichols Rd *between* Terra Cotta Rd and Collier Avenue [E/W]

12. Lake St *between* A St and B St [N/S] (General Plan Scenario)
13. Lake St *between* D St (North) and Nichols Rd [N/S] (General Plan Scenario)
14. Lake St *between* Nichols Rd and D St (South) [N/S] (General Plan Scenario)
15. Lincoln Street *between* I-15 Freeway and A St/E St [N/S] (General Plan Scenario)
16. Lincoln Street *between* A St/E St and B St/F St (North) [N/S] (General Plan Scenario)
17. Lincoln Street *between* B St/F St (North) and F St (South) [N/S] (General Plan Scenario)
18. Lincoln Street *between* F St (South) and Nichols Rd [N/S] (General Plan Scenario)
19. Lincoln Street *between* Nichols Rd and Mountain St [N/S] (General Plan Scenario)
20. E St *between* F St and Lincoln Street [E/W] (General Plan Scenario)
21. F St (North) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
22. F St (South) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
23. A St *between* Lincoln Street and Lake St [E/W] (General Plan Scenario)
24. B St *between* Lincoln Street and C St [E/W] (General Plan Scenario)
25. B St *between* C St and Lake St [E/W] (General Plan Scenario)
26. C St *between* B St and Nichols Rd [N/S] (General Plan Scenario)
27. Nichols Rd *between* Lincoln Street and C St [E/W] (General Plan Scenario)
28. Nichols Rd *between* C St and D St [E/W] (General Plan Scenario)
29. Nichols Rd *between* D St and Lake St [E/W] (General Plan Scenario)
30. D St (North) *between* Lake St and Nichols Rd [N/S] (General Plan Scenario)
31. D St (South) *between* Nichols Rd and Lake St [N/S] (General Plan Scenario)
32. Temescal Canyon Road *between* Lincoln Street and Lake Street

- **Under Existing traffic conditions**, one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
13. I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

- **Under Existing traffic conditions**, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily</u>		
	<u>Daily Volume</u>	<u>V/C Ratio</u>	<u>LOS</u>
2. Lake Street <i>between</i> I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3. Lake Street <i>between</i> Temescal Canyon Road and Nichols Road	15,189	0.844	D
4. Lake Street <i>between</i> Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5. Lake Street <i>between</i> Alberhill Ranch Road and Mountain Street	18,880	1.049	F

However, even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours under existing conditions and therefore no improvements to these roadway segments are necessary.

- **Under General Plan Buildout Without Project traffic conditions**, nine (9) key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse during the AM and/or PM peak hours under General Plan Buildout Without Project traffic conditions. The remaining ten (10) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse levels of service are:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
1. Horsethief Canyon Road at Temescal Canyon Rd	OVRFL ¹	F	OVRFL ¹⁸	F
5. Lake Street at Nichols Road	--	--	121.1	F
10. Terra Cotta Road at Lakeshore Drive	OVRFL ¹⁸	F	OVRFL ¹⁸	F
11. Collier Avenue at Nichols Road	138.5	F	363.8	F
13. I-15 Northbound Ramps at Nichols Road	80.0	E	257.5	F
14. Lincoln Street at A Street/E Street	280.4	F	481.0	F
21. Lake Street at A Street	--	--	167.2	F
25. Alberhill Ranch Road at Nichols Road	--	--	98.6	F
26. Terra Cotta Road at Nichols Road	--	--	83.8	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned intersection improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

- **Under General Plan Buildout Without Project traffic conditions**, ten (10) of the twenty-three (23) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout Without Project Traffic Conditions. The remaining

¹ OVRFL = Exceeds analysis model capabilities (Overflow conditions).

thirteen (13) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily Volume</u>	<u>Daily</u>	
		<u>V/C Ratio</u>	<u>LOS</u>
3. Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	49,000	0.909	E
9. Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10. Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11. Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12. Lake Street between A Street and B Street	47,000	0.872	D
13. Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15. Lincoln Street between Temescal Canyon Road and A St/E St	42,000	1.232	F
23. A Street between Lincoln Street and Lake Street	34,000	0.944	E
28. Nichols Road between C Street and D Street	34,000	1.133	F
29. Nichols Road between D Street and Lake Street	34,000	1.133	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

➤ **Under General Plan Buildout With Project traffic conditions**, eleven (11) of the key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse with the addition of Project traffic based on the LOS impact criteria mentioned in this report. The remaining sixteen (16) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse LOS are listed below:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
1. Horsethief Canyon Road at Temescal Canyon Rd	OVRFL ¹⁸	F	OVRFL ¹⁸	F
4. Lake Street at Temescal Canyon Road	--	--	152.2	F
5. Lake Street at Nichols Road	87.6	F	202.8	F
10. Terra Cotta Road at Lakeshore Drive	848.4	F	OVRFL ¹⁸	F
11. Collier Avenue at Nichols Road	133.9	F	371.7	F
13. I-15 Northbound Ramps at Nichols Road	77.1	E	258.0	F
14. Lincoln Street at A Street/E Street	--	--	123.9	F
23. Lake Street at D Street (North)	--	--	102.7	F
25. Alberhill Ranch Road at Nichols Road	--	--	105.0	F

26.	Terra Cotta Road at Nichols Road	--	--	97.5	F
27.	Lincoln Street at Temescal Canyon Road	122.8	F	342.0	F

These eleven (11) intersections will have a significant impact when compared to the City of Lake Elsinore LOS criteria. It should be noted that the recommended improvements outlined in this report will offset the impact of the General Plan Buildout With Project traffic and bring the significantly impacted intersections to pre-project and/or acceptable conditions.

- **Under General Plan Buildout With Project traffic conditions**, eleven (11) of the thirty-two (32) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. The remaining twenty-one (21) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily Volume</u>	<u>V/C Ratio</u>	<u>LOS</u>
1. Temescal Canyon Rd between Horsethief Canyon Road and I-15	44,000	0.816	D
3. Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	52,000	0.965	E
9. Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10. Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11. Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12. Lake Street between A Street and B Street	60,000	1.113	F
13. Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15. Lincoln Street between Temescal Canyon Road and A St/E St	33,000	0.968	E
20. E Street between F Street and Lincoln Street	23,000	1.278	F
26. C Street between B Street and Nichols Road	21,000	1.167	F
29. Nichols Road between D Street and Lake Street	30,000	1.000	E

It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements are consistent with the City of Lake Elsinore General Plan Update.

- The results of the General Plan Buildout With Project traffic conditions level of service analysis indicate that the proposed Project will significantly impact eleven (11) of the of the twenty-seven (27) key study intersections. The remaining sixteen (16) intersections are forecast to operate at acceptable LOS D or better under the General Plan Buildout With Project traffic conditions. It should be noted that two (2) intersections (Lake Street at A Street and Lake Street at D Street) are not impacted but have been improved due to other

recommended improvements which affect the lane geometry of these intersections. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the General Plan Buildout With Project traffic:

- **Horsethief Canyon Road at Temescal Canyon Road:** Install a traffic signal and design for three-phase operation with protective left-turn phasing for westbound left-turn movements on Horsethief Canyon Road. Widen and re-stripe Horsethief Canyon Road to provide an exclusive northbound free right-turn lane. Widen and re-stripe Temescal Canyon Road to provide a 2nd and 3rd eastbound through lanes, 2nd westbound through lane and dual westbound left-turn lanes.
- **Lake Street at Temescal Canyon Road:** Widen and re-stripe Lake Street to provide a 2nd northbound left-turn lane, 3rd northbound through lane and a 3rd southbound through lane. Modify existing planned traffic signal.
- **Lake Street at Nichols Road:** Widen and re-stripe Lake Street to provide an exclusive northbound free right-turn lane. Install a westbound right-turn overlap phase on Nichols Road. Modify existing traffic signal.
- **Terra Cotta Road at Lakeshore Drive:** Install a traffic signal and design for eight-phase operation with protective left-turn phasing for all left-turn movements on Terra Cotta Road and Lakeshore Drive. Widen and re-stripe Terra Cotta Road to provide an exclusive northbound left-turn lane and an exclusive southbound left-turn lane. Widen and re-stripe Lakeshore Drive to provide a 2nd eastbound through lane, a 2nd westbound through lane and an exclusive westbound right-turn lane.
- **I-15 Southbound Ramps/Collier Avenue at Nichols Road:** Widen and re-stripe I-15 Southbound Ramps to provide two (2) southbound left-turns, one (1) southbound through lane and one (1) southbound free right-turn lane. Widen and re-stripe Collier Avenue to provide one (1) northbound free right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, an exclusive eastbound right turn lane, dual westbound left-turn lanes, and a 2nd westbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.
- **I-15 Northbound Ramps at Nichols Road:** Widen and re-stripe I-15 Northbound Ramps to provide two (2) northbound left-turns and one (1) northbound right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, and a 2nd and 3rd westbound through lanes. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.

- **Lincoln Street at A Street/E Street:** Widen and re-stripe Lincoln Street to provide an exclusive southbound right-turn lane. Widen and re-stripe E Street to provide a 2nd eastbound left-turn lane. Modify General Plan Buildout planned traffic signal.
- **Lake Street at A Street:** Widen and re-stripe Lake Street to provide a 3rd northbound through lane, 3rd southbound through lane and an exclusive southbound right-turn lane. Widen and re-stripe A Street to provide a 2nd eastbound left-turn lane, an exclusive eastbound right-turn lane, and an exclusive westbound right-turn lane. Install a southbound right-turn overlap phase on Lake Street. Modify General Plan Buildout planned traffic signal and convert from five-phase operation to eight-phase operation. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.
- **Lake Street at B Street:** Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.
- **Lake Street at D Street (North):** Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal.
- **Alberhill Ranch Road at Nichols Road:** Widen and re-stripe Alberhill Ranch Road to provide a 2nd southbound left-turn lane. Widen and re-stripe Nichols Road to provide an exclusive westbound right-turn lane. Modify General Plan Buildout planned traffic signal.
- **Terra Cotta Road at Nichols Road:** Widen and re-stripe Nichols Road to a 3rd eastbound through lane, an exclusive eastbound right-turn lane, a 3rd westbound through lane and a 2nd westbound left-turn lane. Install a northbound right-turn overlap phase on Terra Cotta Road. Modify General Plan Buildout planned traffic signal.
- **Lincoln Street at Temescal Canyon Road:** Widen and re-stripe Lincoln Street to provide a 2nd northbound left turn-lane. Widen and re-stripe Temescal Canyon Road to provide an exclusive eastbound free right turn-lane and a 2nd westbound left-turn lane. Modify General Plan Buildout planned traffic signal.

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ALBERHILL VILLAGES SPECIFIC PLAN
Lake Elsinore, California
July 14, 2015
(Update of February 25, 2013 Report)

1.0 INTRODUCTION

This traffic impact analysis evaluates the potential traffic impacts of the proposed Alberhill Villages Specific Plan (hereinafter referred to as Project) on the area traffic circulation system. The proposed Project consists of a mixed-use master plan with approximately 8,244 residential dwelling units, approximately 2,507,000 square feet (SF) of commercial and office development, and institutional uses with approximately 8,050 students on approximately 1,400 acres. The Alberhill Villages Specific Plan area is generally located along the south side of the I-15 Freeway and west of Lake Street in the City of Lake Elsinore, California. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years and matches the land use data contained in the Western Riverside Subarea Applications Traffic Model (WRSATM) for this area.

The Project site has been visited and an inventory of adjacent area roadways and intersections made. In support of detailed intersection capacity analyses, existing traffic count information has been compiled.

This traffic report analyzes existing and General Plan Amendment Buildout AM and PM peak hours and Daily traffic conditions upon completion of the Project. Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update. The primary purpose of this traffic impact analysis (TIA) report is to provide a program-level analysis for the General Plan Buildout traffic condition consistent with the City's General Plan and identify recommended traffic improvements, accordingly, to achieve acceptable service levels within the study area. In addition, for the purposes of determining the extent and timing of phased infrastructure roadway improvements, subsequent TIA's will be prepared to accompany any application requiring discretionary action (i.e. Tentative Tract Map or Conditional Use Permit, etc.). The TIA will be prepared for the strict purpose of determining the "nexus" improvements required as a part of the respective application.

1.1 Study Area

Thirteen (13) key existing study intersections and nine (9) existing key roadway segments were designated for evaluation for the Existing analysis. Nineteen (19) key study intersections and twenty-three (23) key roadway segments were designated for evaluation for the General Plan Buildout Without Project analysis. Twenty-seven (27) key study intersections and thirty-two (32) key roadway segments were designated for evaluation for the General Plan Amendment Buildout With

Project analysis. The key area intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

1. Horsethief Canyon Road at Temescal Canyon Road
2. Lake Street at I-15 Northbound Ramps
3. Lake Street at I-15 Southbound Ramps
4. Lake Street at Temescal Canyon Road
5. Lake Street at Nichols Road
6. Lake Street at Alberhill Ranch Road
7. Lake Street at Mountain Street
8. Lake Street/Grand Avenue at Lakeshore Drive
9. Grand Avenue at Lincoln Street
10. Terra Cotta Road at Lakeshore Drive
11. Collier Avenue at Nichols Road
12. I-15 Southbound Ramps at Nichols Road
13. I-15 Northbound Ramps at Nichols Road
14. Lincoln Street at A Street/E Street (General Plan Scenario)
15. Lincoln Street at B Street/F Street (North) (General Plan Scenario)
16. Lincoln Street at F Street (South) (General Plan Scenario)
17. Lincoln Street at Nichols Road (General Plan Scenario)
18. C Street at B Street (General Plan Scenario)
19. C Street at Nichols Road (General Plan Scenario)
20. D Street at Nichols Road (General Plan Scenario)
21. Lake Street at A Street (General Plan Scenario)
22. Lake Street at B Street (General Plan Scenario)
23. Lake Street at D Street (North) (General Plan Scenario)
24. Lake Street at D Street (South) (General Plan Scenario)
25. Alberhill Ranch Road at Nichols Road (General Plan Scenario)
26. Terra Cotta Road at Nichols Road (General Plan Scenario)
27. Lincoln Street at Temescal Canyon Road

The key area roadway segments selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

1. Temescal Canyon Rd *between* Horsethief Canyon Rd and I-15 Freeway [E/W]
2. Lake St *between* I-15 SB Ramps and Temescal Canyon Rd [N/S]
3. Lake St *between* Temescal Canyon Rd and Nichols Rd [N/S]
4. Lake St *between* Nichols Rd and Alberhill Ranch Rd [N/S]

5. Lake St *between* Alberhill Ranch Rd and Mountain St [N/S]
6. Lake St *between* Mountain St and Lakeshore Drive [N/S]
7. Grand Avenue *between* Lakeshore Drive and Lincoln St [N/S]
8. Lakeshore Drive *between* Lake St/Grand Avenue and Terra Cotta Rd [E/W]
9. Nichols Rd *between* Lake St and Alberhill Ranch Rd [E/W] (General Plan Scenario)
10. Nichols Rd *between* Alberhill Ranch Rd and Terra Cotta Rd [E/W] (General Plan Scenario)
11. Nichols Rd *between* Terra Cotta Rd and Collier Avenue [E/W]
12. Lake St *between* A St and B St [N/S] (General Plan Scenario)
13. Lake St *between* D St (North) and Nichols Rd [N/S] (General Plan Scenario)
14. Lake St *between* Nichols Rd and D St (South) [N/S] (General Plan Scenario)
15. Lincoln Street *between* I-15 Freeway and A St/E St [N/S] (General Plan Scenario)
16. Lincoln Street *between* A St/E St and B St/F St (North) [N/S] (General Plan Scenario)
17. Lincoln Street *between* B St/F St (North) and F St (South) [N/S] (General Plan Scenario)
18. Lincoln Street *between* F St (South) and Nichols Rd [N/S] (General Plan Scenario)
19. Lincoln Street *between* Nichols Rd and Mountain St [N/S] (General Plan Scenario)
20. E St *between* F St and Lincoln Street [E/W] (General Plan Scenario)
21. F St (North) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
22. F St (South) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
23. A St *between* Lincoln Street and Lake St [E/W] (General Plan Scenario)
24. B St *between* Lincoln Street and C St [E/W] (General Plan Scenario)
25. B St *between* C St and Lake St [E/W] (General Plan Scenario)
26. C St *between* B St and Nichols Rd [N/S] (General Plan Scenario)
27. Nichols Rd *between* Lincoln Street and C St [E/W] (General Plan Scenario)
28. Nichols Rd *between* C St and D St [E/W] (General Plan Scenario)
29. Nichols Rd *between* D St and Lake St [E/W] (General Plan Scenario)
30. D St (North) *between* Lake St and Nichols Rd [N/S] (General Plan Scenario)
31. D St (South) *between* Nichols Rd and Lake St [N/S] (General Plan Scenario)
32. Temescal Canyon Road *between* Lincoln Street and Lake Street

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with future traffic and the proposed Project. When necessary, this report recommends intersection and/or roadway improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service, and/or mitigates the impact of the Project. **Figure 1-2** presents a Regional Map, which illustrates the general location of the Project, surrounding cities and the regional freeway system.

Figure 1-3 presents the City of Lake Elsinore Circulation Element, which identifies the roadway classifications that are identified in this study. **Figure 1-4** shows the corresponding City of Lake Elsinore General Plan Roadway Cross-Sections.

Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated Project traffic generation,
- AM and PM peak hour capacity analyses for existing conditions,
- Daily capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for General Plan Buildout, without and with Project traffic,
- Daily capacity analyses for General Plan Buildout, without and with Project traffic and
- Area-Wide Traffic Improvements.

1.2 Traffic Impact Analysis Scenarios

AM and PM peak hour intersection capacity analysis for the key existing study intersections has been conducted for the following scenarios:

- A. Existing Traffic Conditions,
- B. General Plan Buildout Without Project Traffic Conditions,
- C. General Plan Amendment Buildout With Project Traffic Conditions, and
- D. Scenario “C” plus Recommended Improvements.

The peak hour Delay/LOS calculations will be based on the *Highway Capacity Manual 2000* (HCM 2000) methodology for signalized and unsignalized intersections and will be consistent with the City of Lake Elsinore and Caltrans capacity analysis methodology. The Project’s potential impact will be based on the City of Lake Elsinore significant impact criteria.

Daily V/C roadway segment analysis for the key roadway segments has been conducted for the following scenarios:

- A. Existing Traffic Conditions,
- B. General Plan Buildout Without Project Traffic Conditions,
- C. General Plan Amendment Buildout With Project Traffic Conditions, and
- D. Scenario “C” plus Recommended Improvements.

The Daily V/C/LOS calculations will be consistent with the City of Lake Elsinore capacity analysis methodology. The Project’s potential impact will be based on the City of Lake Elsinore significant impact criteria.

1.3 Impact Criteria and Thresholds

The City of Lake Elsinore and Caltrans consider LOS D to be the minimum acceptable LOS for all intersections. In addition, the City of Lake Elsinore considers LOS C to be the minimum acceptable LOS for all roadway segments.

1.4 Capacity Analysis Methodologies

1.4.1 *Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)*

In conformance with the City of Lake Elsinore and Caltrans requirements, existing AM and PM operating conditions for the key study intersections were evaluated using the *Highway Capacity Manual (HCM) Methodology* for signalized intersections. Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In Chapter 16 of the HCM, only the portion of total delay attributed to the control facility (study intersection) is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay (seconds per vehicle) value range for signalized intersections are shown in **Table 1-1**.

1.4.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The *Highway Capacity Manual (HCM) Methodology* for unsignalized intersections was utilized in the analysis of stop-controlled intersections. For all-way stop-controlled intersections, this methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. The overall average control delay measured in seconds per vehicle and level of service is then calculated for the entire intersection. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance.

For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in **Table 1-2**.

1.4.3 *Volume to Capacity (V/C) Method of Analysis (Roadway Segments)*

In conformance with the City of Lake Elsinore requirements criteria, daily operating conditions for the key study roadway segments have been investigated according to the volume-to-capacity (V/C) of each link. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic count data and the capacity based on the City's classification of each roadway. The six qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range and are shown in **Table 1-3**.

The roadway segment daily capacity of each street classification, according to the City of Lake Elsinore Circulation Element is presented in **Table 1-4**.

TABLE 1-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM)²

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent occurrences.
-F	≥ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

² Source: *Highway Capacity Manual 2000*, Chapter 16 (Signalized Intersections).

TABLE 1-2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM)³

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

³ Source: *Highway Capacity Manual*.

TABLE 1-3
LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)⁴

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	EXCELLENT. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	VERY GOOD. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	GOOD. Represents stable conditions; however, ability to maneuver and change lanes in mid block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	FAIR. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	POOR. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	FAILURE. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

⁴ Source: *Transportation Research Board 2000.*

TABLE 1-4
ROADWAY SEGMENT DAILY CAPACITIES⁵

Type of Arterial	Number of Lanes	LOS “E” Capacity (VPD)
Augmented Urban Arterial	8-Lane	71,000
Urban Arterial	6-Lane	53,900
Towne Center Couplet Arterial	4-Lane	36,000 ⁶
Major	4-Lane	34,100
Modified Major	4-Lane	30,000
Secondary	4-Lane	25,900
Arterial/Divided Collector	2-Lane ⁷	18,000
Collector	2-Lane	13,000

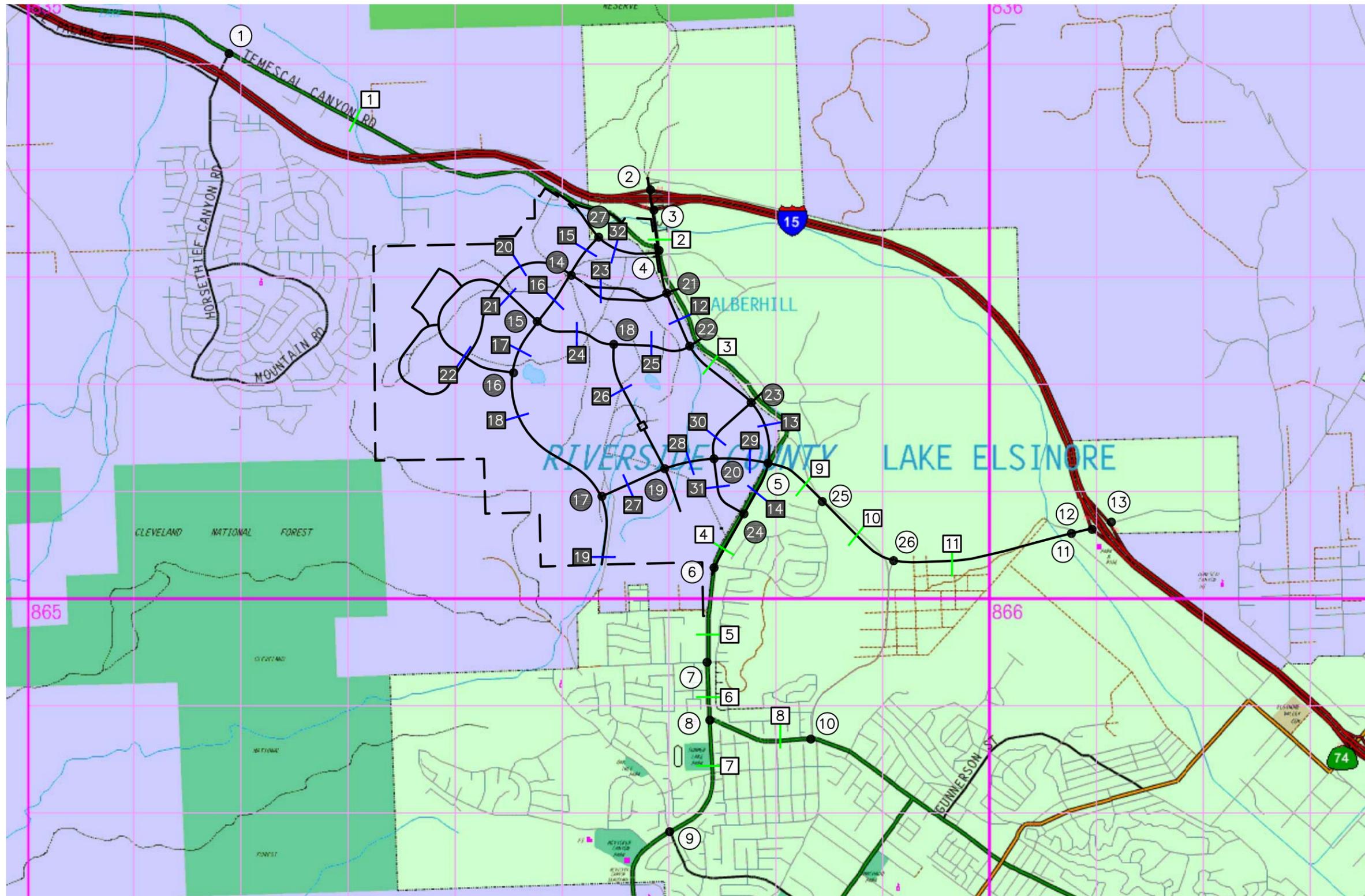
Notes:

- VPD = Vehicles per Day

⁵ Source: *Riverside County General Plan – Chapter 4: Circulation Element*.

⁶ Capacity calculated based on average capacity per lane for 2-Lane Arterial/Divided Collector $[(18,000/2) * 4 = 36,000 \text{ VPD}]$.

⁷ Capacity calculated based on average capacity between a 4-Lane Major and 4-Lane Secondary $[(34,100 + 25,900)/2 = 36,000 \text{ VPD}]$.



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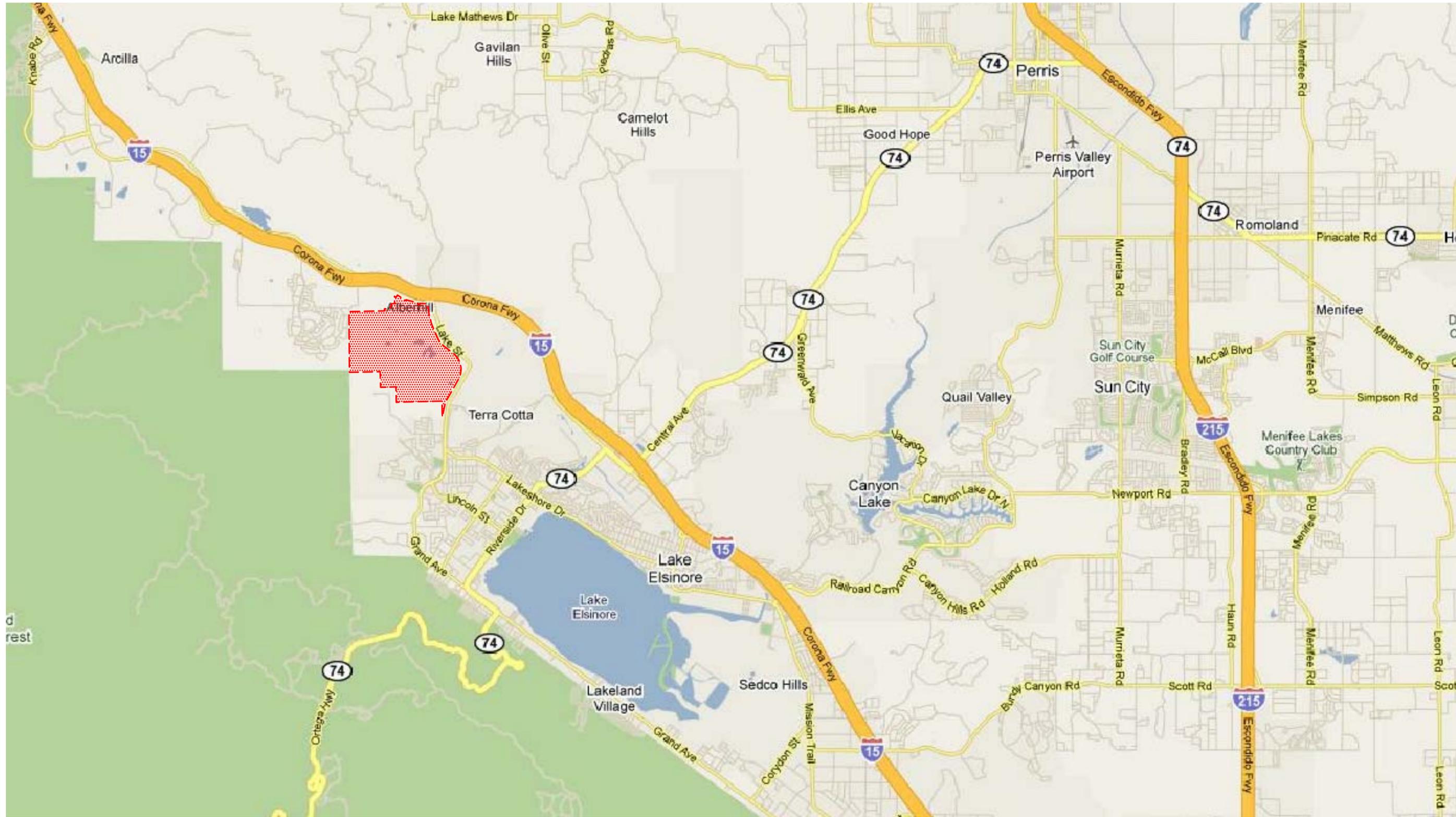
SOURCE: THOMAS BROS
KEY

- # = EXISTING STUDY INTERSECTION
- # = FUTURE STUDY INTERSECTION
- X = EXISTING ROADWAY SEGMENT
- X = FUTURE ROADWAY SEGMENT

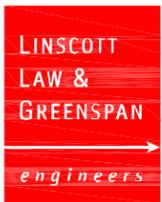


FIGURE 1-1

VICINITY MAP
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



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SOURCE: GOOGLE MAPS

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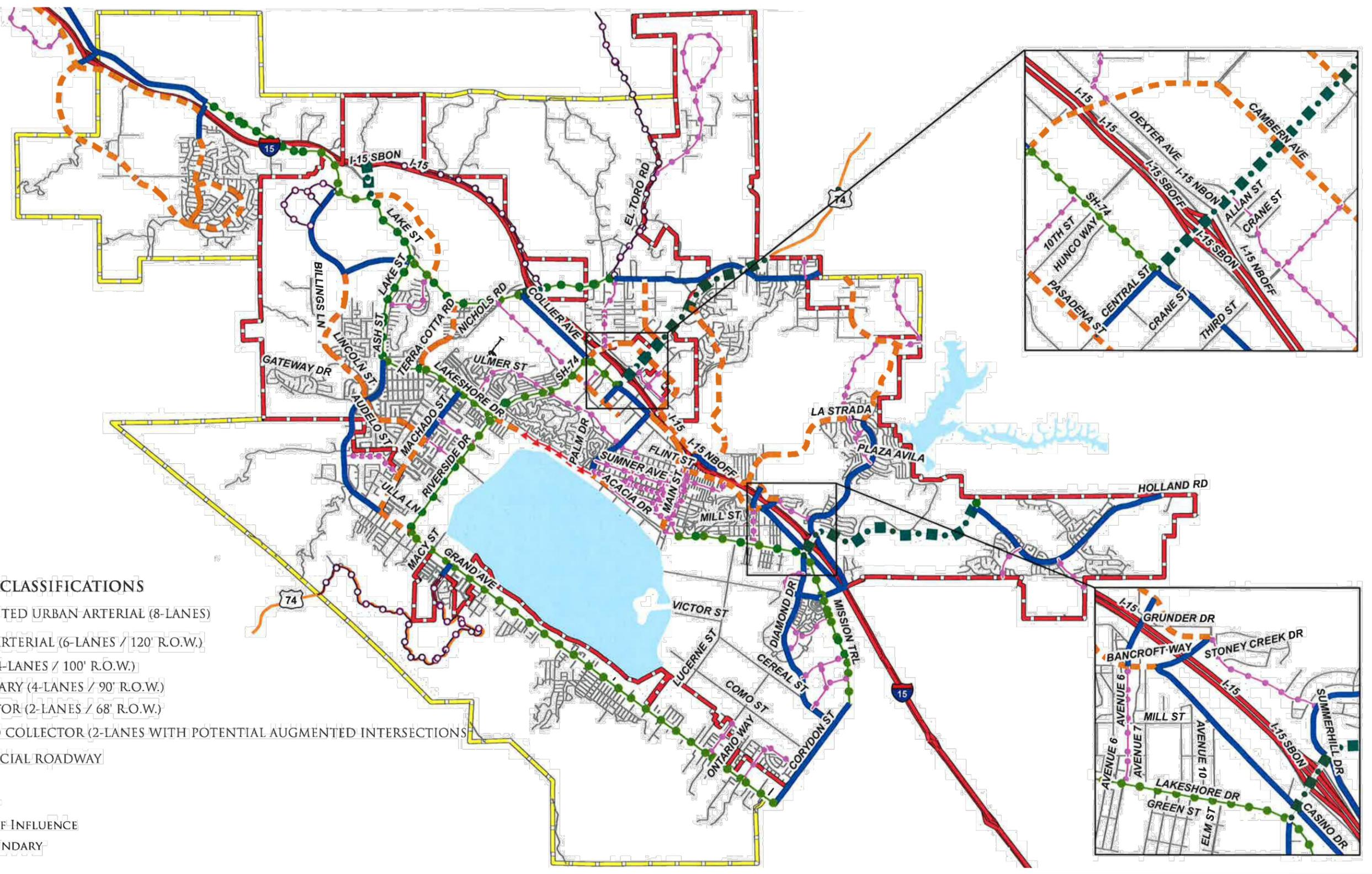
 = PROJECT SITE

FIGURE 1-2

REGIONAL MAP
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

ROADWAY CLASSIFICATIONS

-  AUGMENTED URBAN ARTERIAL (8-LANES)
-  URBAN ARTERIAL (6-LANES / 120' R.O.W.)
-  MAJOR (4-LANES / 100' R.O.W.)
-  SECONDARY (4-LANES / 90' R.O.W.)
-  COLLECTOR (2-LANES / 68' R.O.W.)
-  DIVIDED COLLECTOR (2-LANES WITH POTENTIAL AUGMENTED INTERSECTIONS)
-  NEW SPECIAL ROADWAY
-  I-15
-  SHWY-74
-  SPHERE OF INFLUENCE
-  CITY BOUNDARY

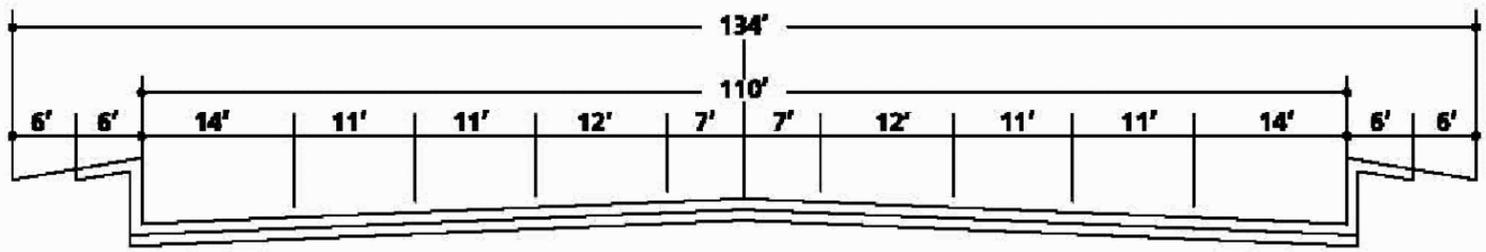


SOURCE: CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE

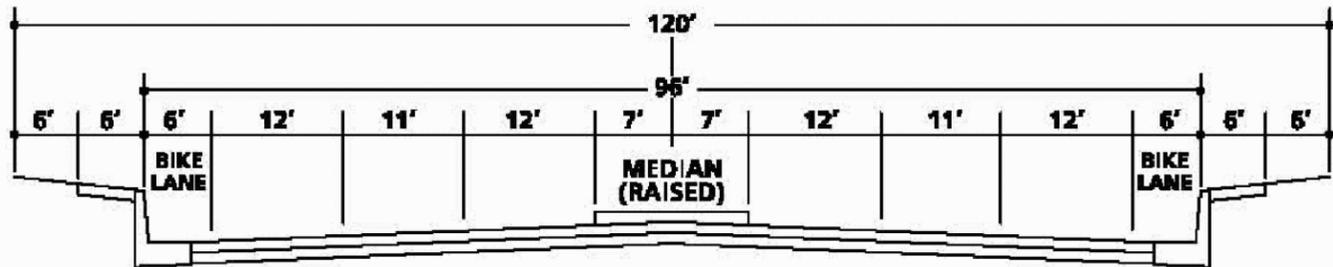


FIGURE 1-3

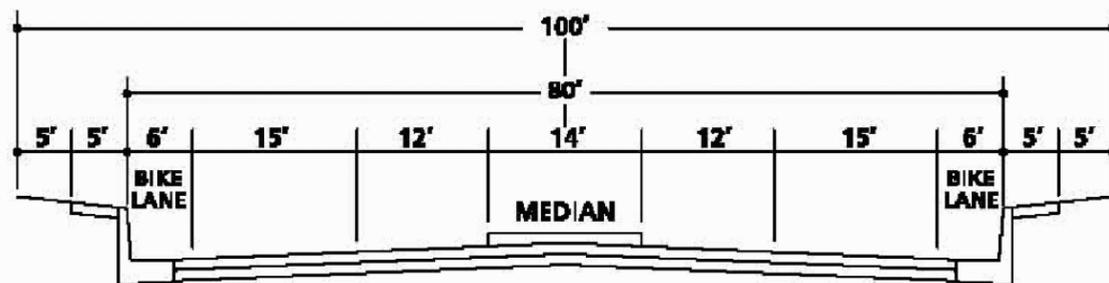
CITY OF LAKE ELSINORE CIRCULATION ELEMENT
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



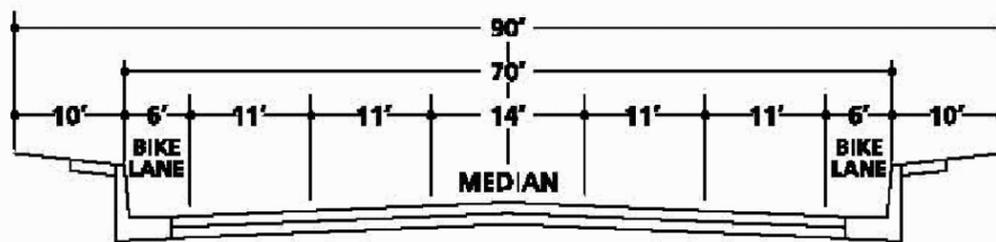
AUGMENTED URBAN ARTERIAL - STATE HIGHWAY
(8-LANE)



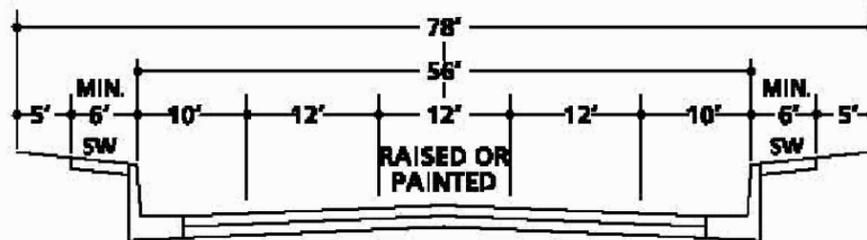
URBAN ARTERIAL HIGHWAY
(6-LANE)



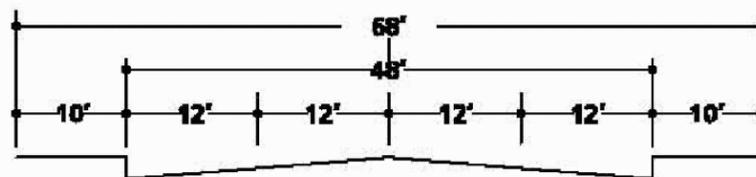
MAJOR HIGHWAY
(4-LANE)



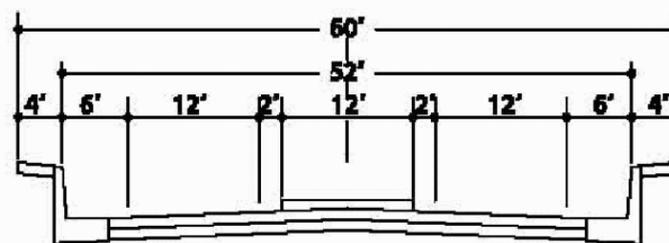
SECONDARY HIGHWAY
(4-LANE)



DIVIDED COLLECTOR
(2-LANE)



COLLECTOR HIGHWAY
(2-LANE)



NEW SPECIAL ROADWAY
(2-LANE)

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NO SCALE

SOURCE: URBAN CROSSROADS

FIGURE 1-4

CITY OF LAKE ELSINORE GENERAL PLAN
ROADWAY CROSS-SECTIONS
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

2.0 PROJECT DESCRIPTION AND LOCATION

The Alberhill Villages Specific Plan area is generally located along the south side of the I-15 Freeway and west of Lake Street, City of Lake Elsinore, California. **Figure 2-1** presents the existing site. **Table 2-1** presents the Project development summary by land use and **Table 2-2** presents the Project development summary by planning area. As presented in **Tables 2-1** and **2-2**, the proposed Project consists of a mixed-use master plan with approximately 19.5 acres of active parks, 36.8 acres of city passive parks, 4,370 apartments, 1,200 condominiums, 2,675 single family residences, two churches with schools for 1,200 students, an elementary school for 850 students, a university for 6,000 students, 1,621,000 SF of commercial use and 886,000 SF of office use. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years.

2.1 Land Use Plan

The Alberhill Villages Specific Plan area has been organized into Villages and Planning Areas. Each Village is intended to create and maintain a unique character. There are a total of six Villages and each is bounded by major roadways, topography, and intended service area (i.e. regional or community focused). In addition, each Village will be anchored by a central focal point such as a school, park, commercial core, plaza, etc. so that these uses are within a ten minute walk or five minute bike ride from residential uses.

2.2 Villages

2.2.1 Village 1: University Town Center and University Village

This Village includes regional mixed use and the site for the university campus. At ultimate buildout it is intended to be the most intense, active and vibrant area with regionally-focused commercial uses adjacent to I-15, housing for various types of occupants including students, teachers, alumni, senior citizens, working professionals and families, a potential office/medical center and entertainment uses.

2.2.2 Village 2: Parkview

This District is bounded by the wildlife connection adjacent to Temescal Canyon Road/Lincoln Street, steep slopes to the south and the project boundary to the north and west. The Greenbelt District is named after the Greenbelt open space connection formed by a tributary of a canyon drainage, which will carry a portion of the storm water runoff and serve as wildlife and pedestrian connection. Wildlife move mostly at night and early evening when these pedestrian/movement corridor areas are not used by humans. A park and elementary school will provide a focal point and social gathering place for the neighborhoods within this District and should be centrally located to facilitate safe and easy walking. A church site will round out the variety of land uses in this Village.

2.2.3 Village 3: Highlands

This hillside area consists of two major components: custom hillside estate homes that will be located in and along the highest portions of the site and the open space connection that runs along Temescal Canyon Road/Lincoln Street. The open space connection will serve a multitude of functions including drainage, sediment collection, wildlife conveyance and recreational pursuits. In

addition, the open space connection will buffer the low density residential development from the more intense development to the east.

2.2.4 *Village 4: Lakeside*

The central portion of the Specific Plan area contains the Lakeside Village. A lake and community park is designed for this area to serve as a transition between the intense University Mixed-Use District and the adjacent residential districts to the south, east and west. A series of interconnected open space areas for pedestrians, bicyclists and wildlife will be provided. This Village is within easy walking distance of the community Alberhill Town Center along Lake Street and Nichols Road. A lake front mixed use area is also located in this Village.

2.2.5 *Village 5: Ridgeview*

The Village will be anchored by a middle school site and a small pocket park that will serve as a focal point for the Village. This Village is also within easy walking distance of the community Alberhill Town Center along Lake Street and Nichols Road. A church site will round out the variety of land uses in this Village.

2.2.6 *Village 6: Alberhill Town Center*

The site is intended to accommodate a mix of uses such as a major market, office, smaller retail businesses and residences, located in a manner which creates a pleasant pedestrian environment complete with public spaces.

2.3 Planning Areas

Each Village is divided into smaller Planning Areas or Neighborhoods. Individual Planning Areas or Neighborhoods have boundaries that are defined by major and minor roadways or distinct topographic features. In addition, they are sized so that uses are within a five minute walk or quarter mile radius.

Figure 2-2 presents the proposed Land Use Planning Area Map prepared by KWC Engineers, dated March 23, 2015. As shown in **Figure 2-2**, the Alberhill Villages Specific Plan will amend the General Plan Circulation Element to modify the roadway network of the current General Plan within the Project site consisting of connecting Temescal Canyon Road to Lake Street within the general proximity of the existing connection to Lake Street and re-aligning Lincoln Avenue to connect with Temescal Canyon Road as a “T” Intersection.

2.4 Project Traffic Analysis Zones (TAZ)

The proposed land use and zoning designations are Specific Plan. The individual land uses within the Specific Plan are summarized in **Tables 2-1** and **2-2**. The Project Traffic Analysis Zones (TAZ) that were utilized in the most current Lake Elsinore Traffic Model to generate the General Plan Buildout traffic volumes are shown in **Figure 2-3**.

TABLE 2-1
PROJECT DEVELOPMENT SUMMARY BY LAND USE

Project Description / Land Use	Proposed Development Size
<u>Active Park</u>	
▪ Planning Area 2c - Active (Sports) Park	14.3 Acres
▪ Planning Area 5b - Active (Sports) Park	45.9 Acres
▪	
<i>Active Park Total:</i>	<i>19.5 Acres</i>
<u>Passive Parks</u>	
<i>City Parks</i>	
▪ Planning Area 4a - City Passive Lake Park	21.3 Acres
▪ Planning Area 4c - City Passive Lake Park	15.5 Acres
<i>Passive Park Total:</i>	<i>36.8 Acres</i>
<u>Apartments</u>	
▪ Planning Area 1a - Apartments	451 DU
▪ Planning Area 1c - Apartments	1,594 DU
▪ Planning Area 2a - Apartments	350 DU
▪ Planning Area 2b - Apartments	1,026 DU
▪ Planning Area 4a - Apartments	889 DU
▪ Planning Area 4c - Apartments	60 DU
<i>Apartments Total:</i>	<i>4,370 DU</i>
<u>Condominiums</u>	
▪ Planning Area 1b - Condominiums	346 DU
▪ Planning Area 4b - Condominiums	467 DU
▪ Planning Area 5b - Condominiums	237 DU
▪ Planning Area 6a - Condominiums	100 DU
▪ Planning Area 6b - Condominiums	50 DU
<i>Condominiums Total:</i>	<i>1,200 DU</i>
<u>Single Family Residence</u>	
▪ Planning Area 2a - Single Family Residence	782 DU
▪ Planning Area 2c - Single Family Residence	287 DU
▪ Planning Area 3a - Single Family Residence	8 DU
▪ Planning Area 4a - Single Family Residence	795 DU
▪ Planning Area 4b - Single Family Residence	234 DU
▪ Planning Area 4c - Single Family Residence	190 DU
▪ Planning Area 5a - Single Family Residence	287 DU
▪ Planning Area 5b - Single Family Residence	92 DU
<i>Single Family Residence Total:</i>	<i>2,675 DU</i>

Notes: DU = Dwelling Units

TABLE 2-1 (CONTINUED)
PROJECT DEVELOPMENT SUMMARY BY LAND USE

Project Description / Land Use	Proposed Development Size
<u>Church with School</u> <ul style="list-style-type: none"> ▪ Planning Area 2c - Church with School ▪ Planning Area 6b - Church with School <p style="text-align: right;"><i>Church with School Total:</i></p>	<p>600 Students</p> <p>600 Students</p> <p><i>1,200 Students</i></p>
<u>Elementary School</u> <ul style="list-style-type: none"> ▪ Planning Area 2c - Elementary School <p style="text-align: right;"><i>Elementary School Total:</i></p>	<p>850 Students</p> <p><i>850 Students</i></p>
<u>University</u> <ul style="list-style-type: none"> ▪ Planning Area 1a - University <p style="text-align: right;"><i>University Total:</i></p>	<p>6,000 Students</p> <p><i>6,000 Students</i></p>
<u>Commercial</u> <ul style="list-style-type: none"> ▪ Planning Area 1b - Commercial ▪ Planning Area 4c - Commercial ▪ Planning Area 6a - Commercial ▪ Planning Area 6b - Commercial <p style="text-align: right;"><i>Commercial Total:</i></p>	<p>809,500 SF</p> <p>382,000 SF</p> <p>294,500 SF</p> <p>135,000 SF</p> <p><i>1,621,000 SF</i></p>
<u>Office</u> <ul style="list-style-type: none"> ▪ Planning Area 1b - Office ▪ Planning Area 1c - Office ▪ Planning Area 6a - Office ▪ Planning Area 6b - Office <p style="text-align: right;"><i>Office Total:</i></p>	<p>220,000 SF</p> <p>503,000 SF</p> <p>98,000 SF</p> <p>65,000 SF</p> <p><i>886,000 SF</i></p>
<i>Total Park Acres:</i>	<i>56.3 Acres</i>
<i>Total Residential Dwelling Units:</i>	<i>8,244 DU</i>
<i>Total Students:</i>	<i>8,050 Students</i>
<i>Total Commercial/Office Square-Feet:</i>	<i>2,507,000 SF</i>

Notes:

- DU = Dwelling Units
- SF = Square-Feet

TABLE 2-2
PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA

Project Description / Land Use	Proposed Development Size
<u>Planning Area 1a</u>	
▪ Planning Area 1a - Apartments	451 DU
▪ Planning Area 1a - University	6,000 Students
<u>Planning Area 1b</u>	
▪ Planning Area 1b - Condominiums	346 DU
▪ Planning Area 1b - Commercial	809,500 SF
▪ Planning Area 1b - Office	220,000 SF
<u>Planning Area 1c</u>	
▪ Planning Area 1c - Apartments	1,594 DU
▪ Planning Area 1c - Office	503,000 SF
<u>Planning Area 2a</u>	
▪ Planning Area 2a - Single Family Residence	782 DU
▪ Planning Area 2a - Apartments	350 DU
<u>Planning Area 2b</u>	
▪ Planning Area 2b - Apartments	1,026 DU
<u>Planning Area 2c</u>	
▪ Planning Area 2c - Single Family Residence	287 DU
▪ Planning Area 2c - Active (Sports) Park	19.5 Acres
▪ Planning Area 2c - Elementary School	850 Students
▪ Planning Area 2c - Church with School	600 Students
<u>Planning Area 3a</u>	
▪ Planning Area 3a - Single Family Residence	8 DU
<u>Planning Area 4a</u>	
▪ Planning Area 4a - Single Family Residence	795 DU
▪ Planning Area 4a - Apartments	889 DU
▪ Planning Area 4a - City Passive Lake Park	21.3 Acres
<u>Planning Area 4b</u>	
▪ Planning Area 4b - Single Family Residence	234 DU
▪ Planning Area 4b - Condominiums	467 DU

Notes:

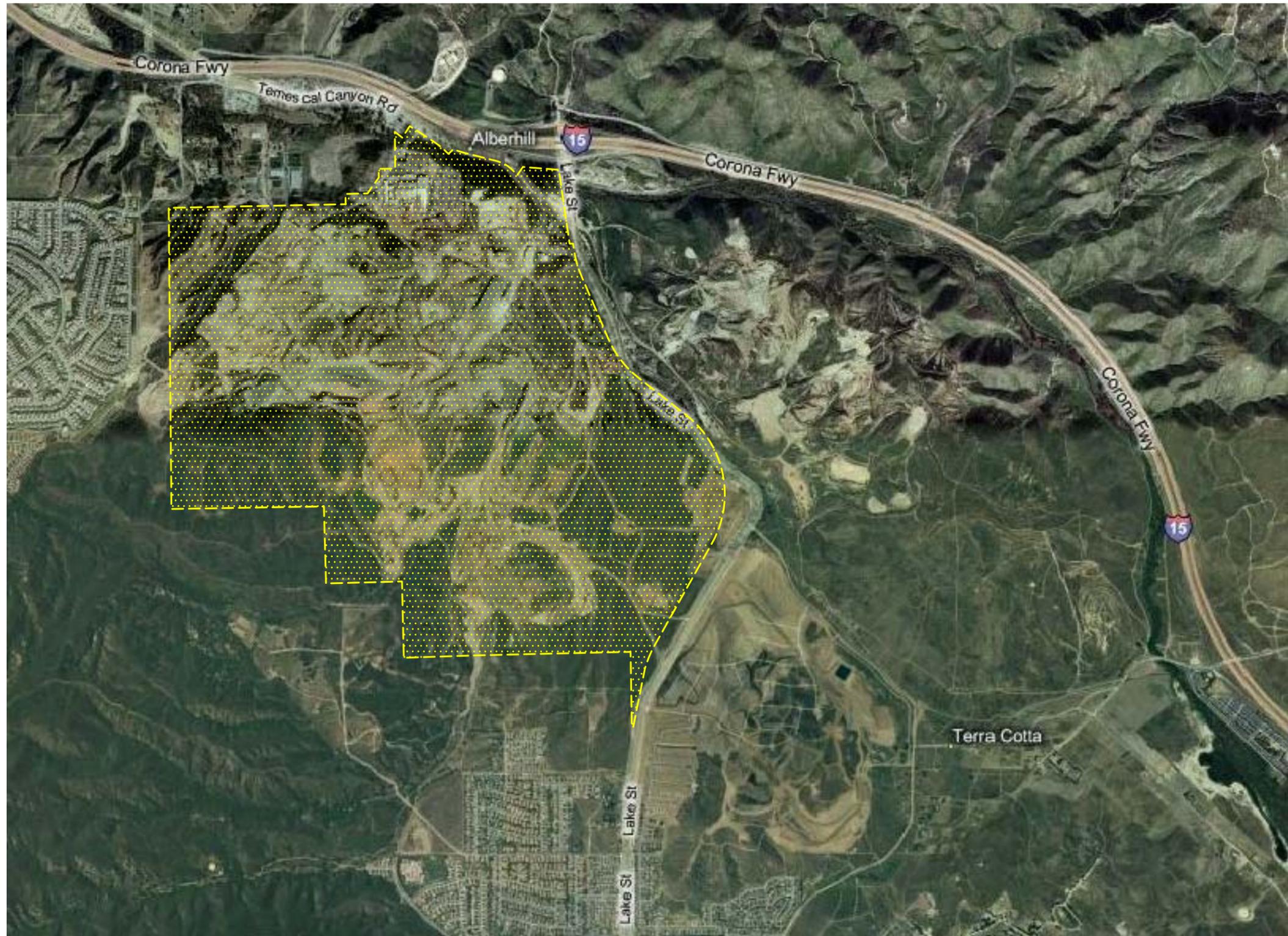
- DU = Dwelling Units
- SF = Square-Feet

TABLE 2-2 (CONTINUED)
PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA

Project Description / Land Use	Proposed Development Size
<u>Planning Area 4c</u>	
▪ Planning Area 4c - Single Family Residence	190 DU
▪ Planning Area 4c - Apartments	60 DU
▪ Planning Area 4c - Commercial	382,000 SF
▪ Planning Area 4c - City Passive Lake Park	15.5 Acres
<u>Planning Area 5a</u>	
▪ Planning Area 5a - Single Family Residence	287 DU
<u>Planning Area 5b</u>	
▪ Planning Area 5b - Single Family Residence	92 DU
▪ Planning Area 5b - Condominiums	237 DU
▪ Planning Area 5b – Active (Sports) Park	45.9 Acres
<u>Planning Area 6a</u>	
▪ Planning Area 6a - Condominiums	100 DU
▪ Planning Area 6a - Commercial	294,500 SF
▪ Planning Area 6a - Office	98,000 SF
<u>Planning Area 6b</u>	
▪ Planning Area 6b - Condominiums	100 DU
▪ Planning Area 6b - Commercial	135,000 SF
▪ Planning Area 6b - Office	65,000 SF
▪ Planning Area 6b - Church with School	600 Students
<i>Active Park Total:</i>	<i>19.5 Acres</i>
<i>Passive Park Total:</i>	<i>36.8 Acres</i>
<i>Apartments Total:</i>	<i>4,370 DU</i>
<i>Condominiums Total:</i>	<i>1,200 DU</i>
<i>Single Family Residence Total:</i>	<i>2,675 DU</i>
<i>Church with School Total:</i>	<i>1,200 Students</i>
<i>Elementary School Total:</i>	<i>850 Students</i>
<i>University Total:</i>	<i>6,000 Students</i>
<i>Commercial Total:</i>	<i>1,621,000 SF</i>
<i>Office Total:</i>	<i>886,000 SF</i>

Notes:

- DU = Dwelling Units
- SF = Square-Feet



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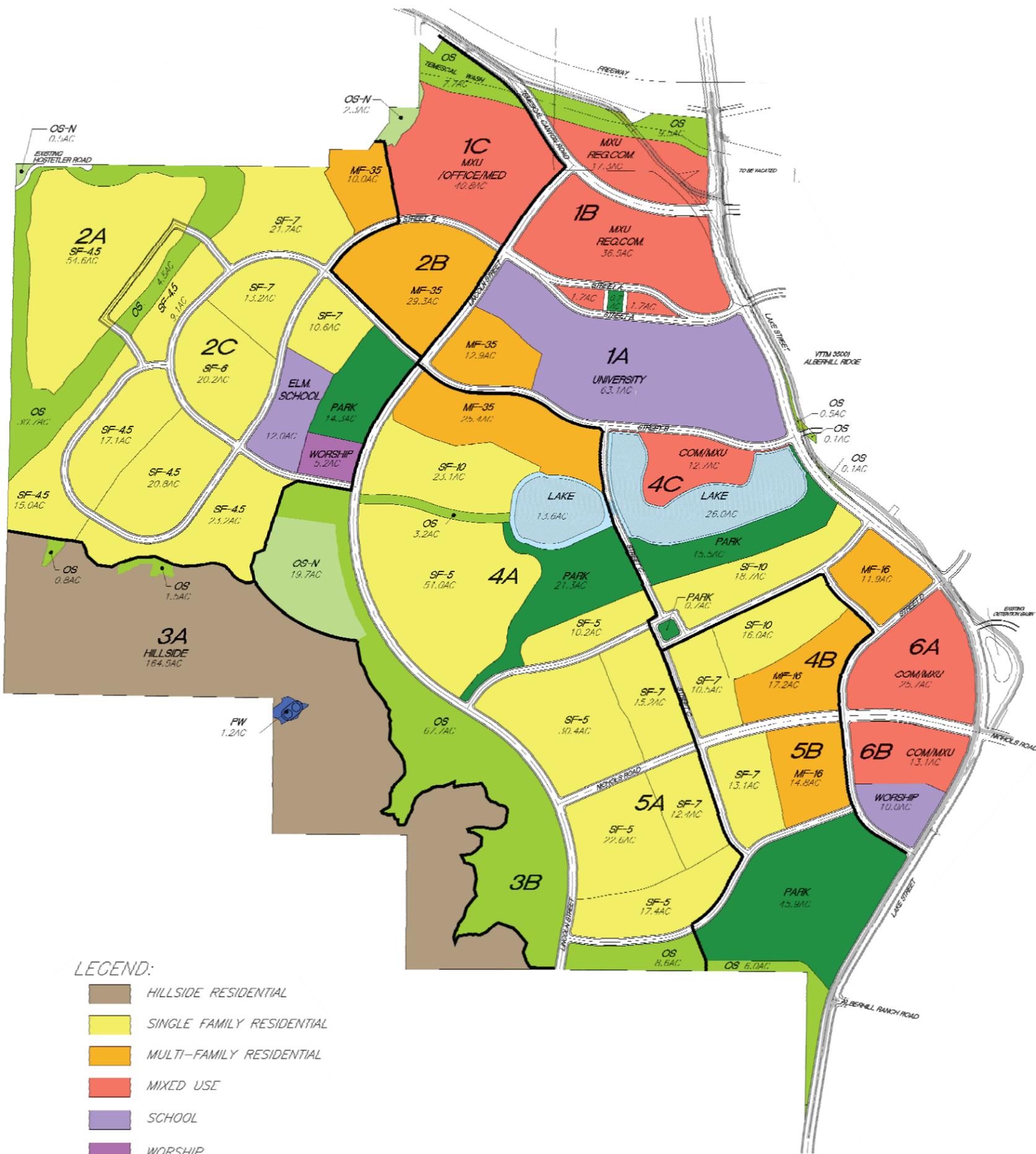


SOURCE: BING

KEY
 = PROJECT SITE

FIGURE 2-1

EXISTING SITE PLAN
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



LEGEND:

- HILLSIDE RESIDENTIAL
- SINGLE FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- MIXED USE
- SCHOOL
- WORSHIP
- LAKE
- PUBLIC WATER FACILITY
- PARKS
- OPEN SPACE-NATURAL
- OPEN SPACE-RESTORED
(RETENTION/DEBRIS BASIN/ SLOPE/ LOW FLOW CHANNEL)

SOURCE: KWC ENGINEERS (MARCH 23, 2015)

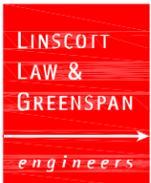
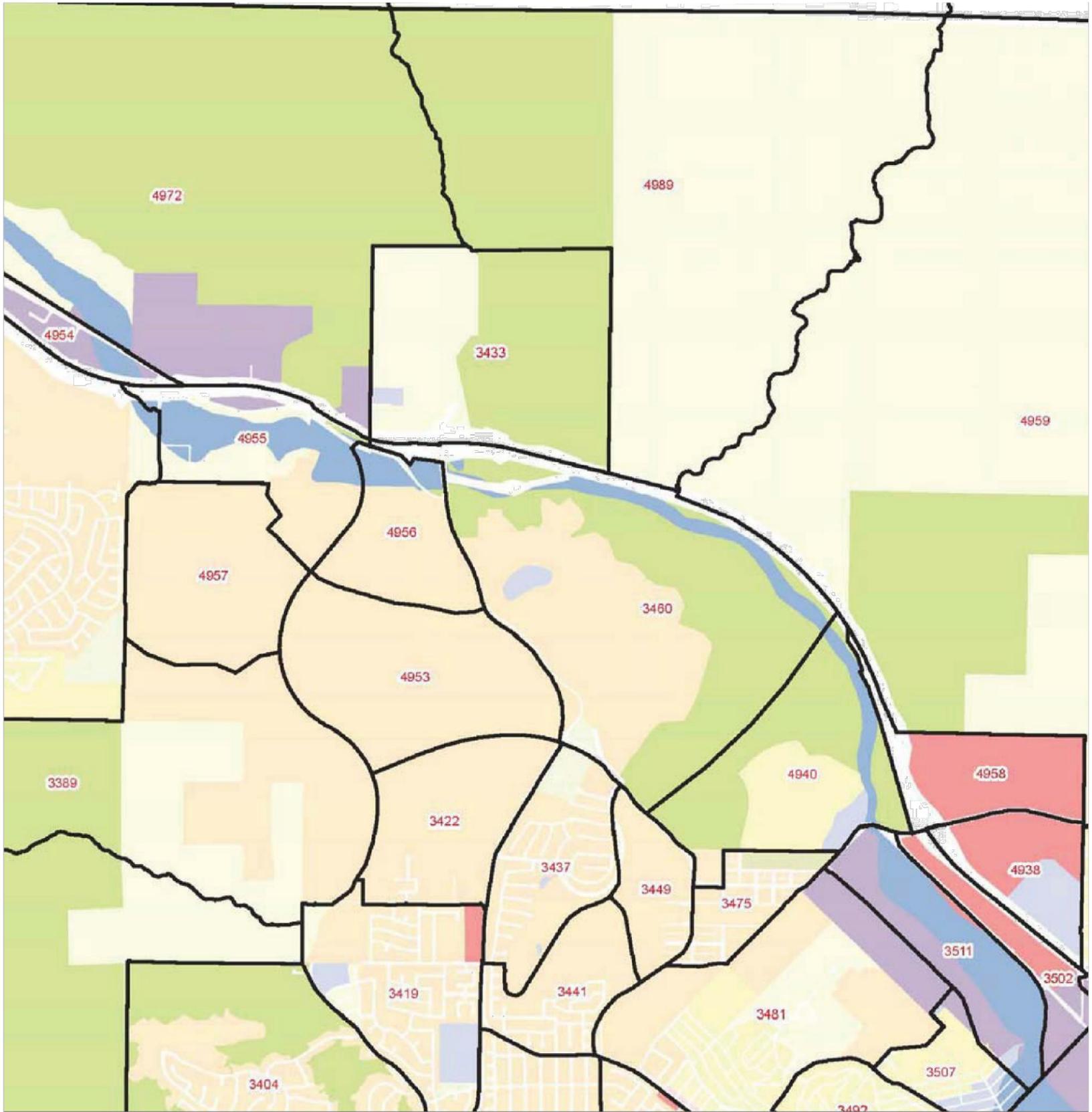


FIGURE 2-2

LAND USE PLANNING AREA MAP
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

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Legend

- | | |
|--------------------------------------|----------------------------|
| Traffic Analysis Zone (TAZ) Boundary | Residential Mixed Use |
| Floodway | Hillside Residential |
| LR - Lakeside Residential | Low Density Residential |
| Business Professional | Low-Medium Residential |
| Limited Industrial | Medium Density Residential |
| General Commercial | High Density Residential |
| Neighborhood Commercial | Recreational |
| Tourist Commercial | Downtown Recreational |
| Gateway Commercial | Open Space |
| Commercial Mixed Use | Public/Institutional |

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SOURCE: LAKE ELSINORE GENERAL PLAN TRAFFIC MODEL UPDATE (URBAN CROSSROADS)

FIGURE 2-3

PROJECT TRAFFIC ANALYSIS ZONES (TAZ) MAP
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

3.0 EXISTING CONDITIONS

Mojave Freeway (I-15 Freeway) provides primary regional access to the proposed development site. The I-15 Freeway is located north and east of the Project site and provides regional access to the Project via On-Ramps and Off-Ramps at Lake Street and Nichols Road.

The principal local network of streets serving the site consists of Lake Street/Grand Avenue, Temescal Canyon Road, Alberhill Ranch Road, Nichols Road, Lakeshore Drive and Lincoln Street. The following discussion provides a brief synopsis of the key area streets.

3.1 Existing Street Network

Lake Street/Grand Avenue is a north-south roadway that borders the Project site on the east. North of Mountain Street, Lake Street is a two-lane, undivided roadway with a posted speed limit of 50 miles per hour (mph). South of Mountain Street, Lake Street/Grand Avenue is a four-lane divided roadway with a posted speed limit of 45 mph. Parking is not permitted on either side of Lake Street/Grand Avenue within the vicinity of the Project. The intersections of Lake Street/Grand Avenue at Alberhill Ranch Road, Mountain Street, Lakeshore Drive and Lincoln Street are controlled by traffic signals.

Temescal Canyon Road is an east-west roadway that borders the Project on the north side. Temescal Canyon Road is a two-lane, undivided roadway with a posted speed limit of 55 miles per hour (mph). Parking is not permitted on either side of the roadway within the vicinity of the Project.

Alberhill Ranch Road is primarily a north-south roadway east of the Project site. Within the vicinity of the Project, Alberhill Ranch Road is a two-lane, divided roadway.

Nichols Road is an east-west roadway that would traverse the Project site. Nichols Road is a two-lane, divided roadway. Parking is not permitted on either side of the roadway within the vicinity of the Project.

Lakeshore Drive is an east-west roadway located south of the Project site. West of Terra Cotta Road, Lakeshore Drive is a four-lane, divided roadway with a posted speed limit of 45 miles per hour (mph). East of Terra Cotta Road, Lakeshore Drive is a two-lane, divided roadway with a posted speed limit of 45 mph. Parking is not permitted on either side of the roadway within the vicinity of the Project.

Lincoln Street is a northwest-southeast roadway located south of the Project site. Lincoln Street is a four-lane, divided roadway with a posted speed limit of 40 miles per hour (mph).

Figure 3-1 presents an inventory of the existing roadway conditions for the intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections and roadway segments are also identified.

3.2 Existing Traffic Volumes

Existing AM and PM peak hour traffic volumes at the thirteen (13) key study intersections and Daily traffic volumes at the nine (9) key roadway segments evaluated in this report were collected in September, 2014 and March 2015 by Counts Unlimited, Inc. *Appendix A* contains the detailed traffic count data. The thirteen (13) key study intersections and nine (9) key roadway segments were designated for evaluation based on the City of Lake Elsinore criteria and knowledge of the area circulation system.

Figures 3-2 and *3-3* present the existing AM and PM peak hour traffic volumes, respectively, for the thirteen (13) key study intersections. *Figure 3-4* presents the existing Daily traffic volumes for the nine (9) key study roadway segments.

3.3 Existing Level of Service Results

3.3.1 Intersections

Table 3-1 summarizes the existing peak hour service level calculations for the thirteen (13) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-1* indicates that based on the HCM method of analysis and the LOS criteria mentioned in this report, one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
13. I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

Figure 3-5 graphically represents the existing traffic conditions level of service results for the AM and PM peak hours.

Appendix B contains the Existing Traffic Conditions Delay/LOS calculation worksheets for the thirteen (13) key study intersections.

3.3.2 Roadway Segments

Table 3-2 summarizes the existing service level calculations for the nine (9) key study roadway segments based on existing daily traffic volumes and current roadway geometry. Review of *Table 3-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily Volume</u>	<u>Daily V/C Ratio</u>	<u>LOS</u>
2. Lake Street <i>between</i> I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3. Lake Street <i>between</i> Temescal Canyon Road and Nichols Road	15,189	0.844	D
4. Lake Street <i>between</i> Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5. Lake Street <i>between</i> Alberhill Ranch Road and Mountain Street	18,880	1.049	F

TABLE 3-1
EXISTING INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY⁸

Key Intersection	Time Period	Control Type	Delay (s/v)	LOS
1. Horsethief Canyon Road at Temescal Canyon Road	AM	One-Way	10.6	B
	PM	Stop	10.6	B
2. Lake Street at I-15 Northbound Ramps	AM	One-Way	23.0 ⁹	C
	PM	Stop	18.8	C
3. Lake Street at I-15 Southbound Ramps	AM	One-Way	11.4	B
	PM	Stop	26.0	D
4. Lake Street at Temescal Canyon Road	AM	3Ø Traffic	19.6	B
	PM	Signal	16.3	B
5. Lake Street at Nichols Road	AM	5Ø Traffic	21.7	C
	PM	Signal	29.1	C
6. Lake Street at Alberhill Ranch Road	AM	3Ø Traffic	8.4	A
	PM	Signal	27.1	C
7. Lake Street at Mountain Street	AM	5Ø Traffic	20.6	C
	PM	Signal	12.7	B
8. Lake Street/Grand Avenue at Lakeshore Drive	AM	8Ø Traffic	30.1	C
	PM	Signal	21.9	C
9. Grand Avenue at Lincoln Street	AM	8Ø Traffic	28.8	C
	PM	Signal	23.9	C
10. Terra Cotta Road at Lakeshore Drive	AM	Two-Way	33.4	D
	PM	Stop	25.8	D
11. Collier Avenue at Nichols Road	AM	One-Way	13.2	B
	PM	Stop	18.4	C
12. I-15 Southbound Ramps at Nichols Road	AM	All-Way	12.5	B
	PM	Stop	13.2	B
13. I-15 Northbound Ramps at Nichols Road	AM	One-Way	23.7	C
	PM	Stop	43.6	E

Notes:

- s/v = seconds per vehicle
- LOS = Level of Service, please refer to *Tables I-1* and *I-2* for the LOS definitions.
- Ø = Phase
- **Bold Delay/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Criteria.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

⁸ Appendix B contains the Delay/LOS calculation worksheets for all study intersections.

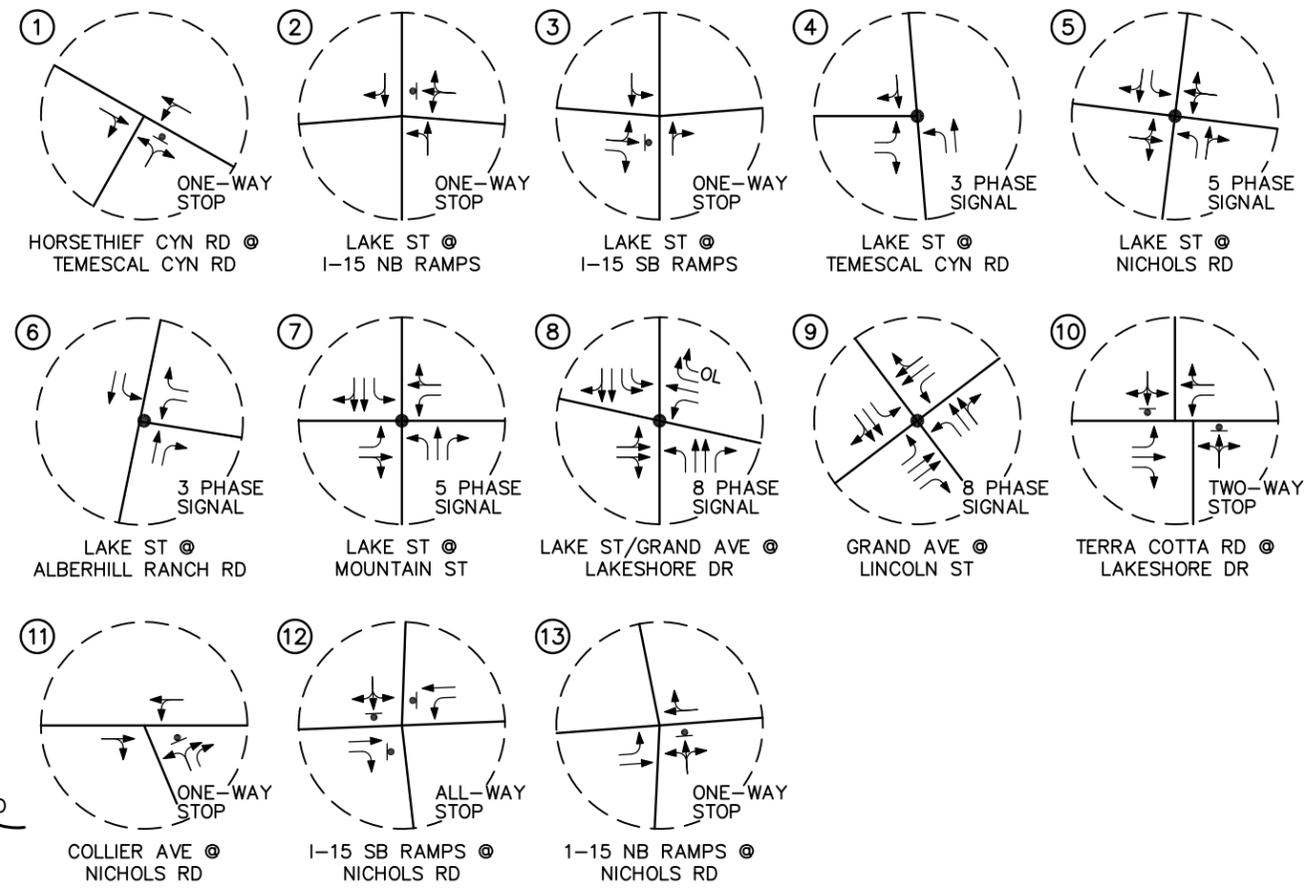
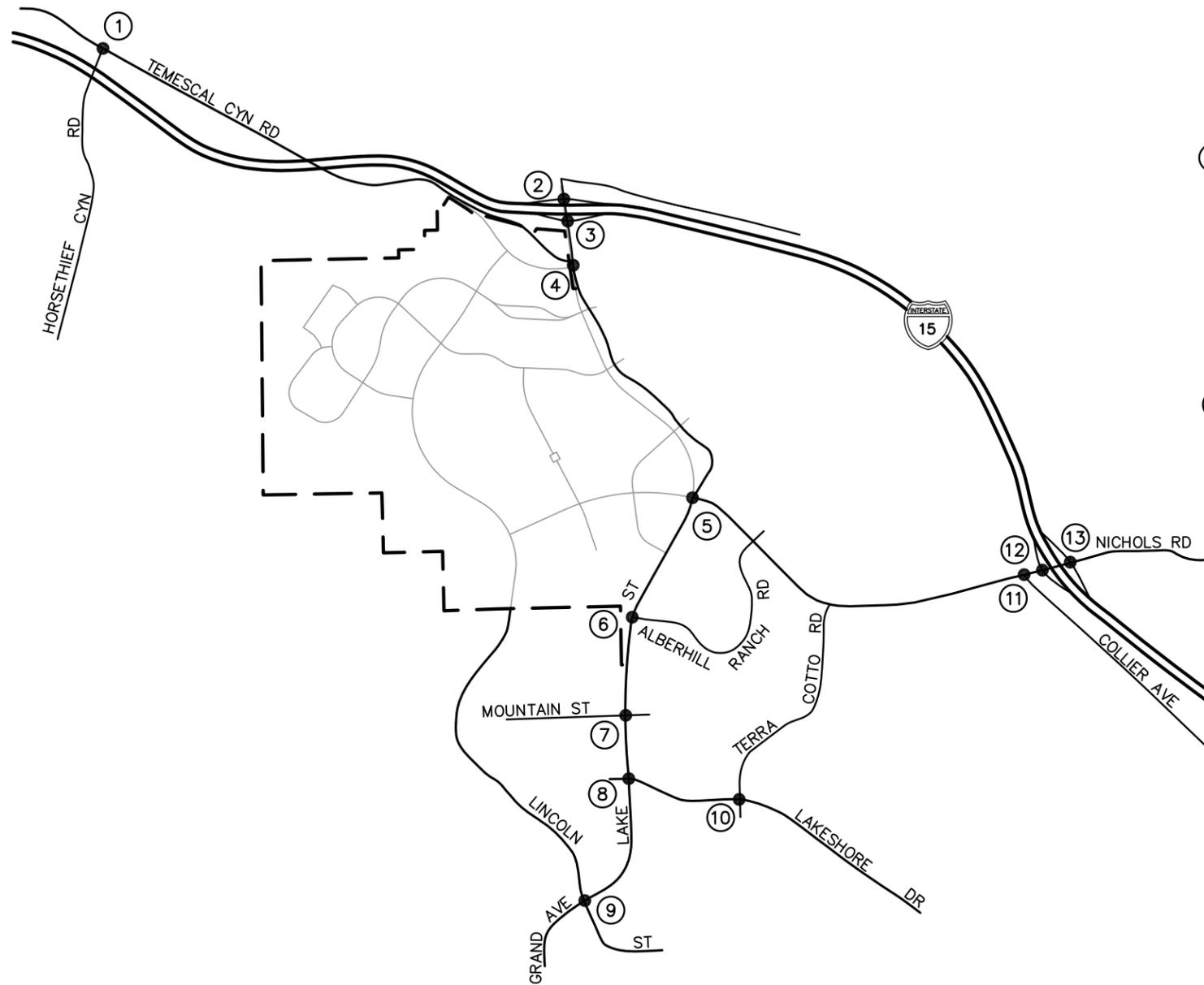
⁹ Actual delay/LOS at the intersection of Lake Street at I-15 Northbound Ramps based on AM peak hour vehicle delay observations of the NB off-ramp left turn movement.

TABLE 3-2
EXISTING ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	(1) Type of Roadway Segment	(2) Number of Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions		
				Daily Volume	V/C Ratio	LOS
1. Temescal Canyon Road <i>between</i> Horsethief Canyon Road and I-15 Freeway	Arterial	2U	18,000	5,691	0.316	A
2. Lake Street <i>between</i> I-15 SB Ramp and Temescal Canyon Road	Arterial	2U	18,000	17,762	0.987	E
3. Lake Street <i>between</i> Temescal Canyon Road and Nichols Road	Arterial	2U	18,000	15,189	0.844	D
4. Lake Street <i>between</i> Nichols Road and Alberhill Ranch Road	Arterial	2U	18,000	19,788	1.099	F
5. Lake Street <i>between</i> Alberhill Ranch Road and Mountain Street	Arterial	2U	18,000	18,880	1.049	F
6. Lake Street <i>between</i> Mountain Street and Lakeshore Street	Secondary	4D	25,900	17,359	0.670	B
7. Grand Avenue <i>between</i> Lakeshore Drive and Lincoln Street	Secondary	4D	25,900	14,757	0.570	A
8. Lakeshore Drive <i>between</i> Lake Street/Grand Avenue and Terra Cotta Road	Secondary	4D	25,900	9,186	0.355	A
11. Nichols Road <i>between</i> Terra Cotta Road and Collier Avenue	Arterial	2U	18,000	6,801	0.378	A

Notes:

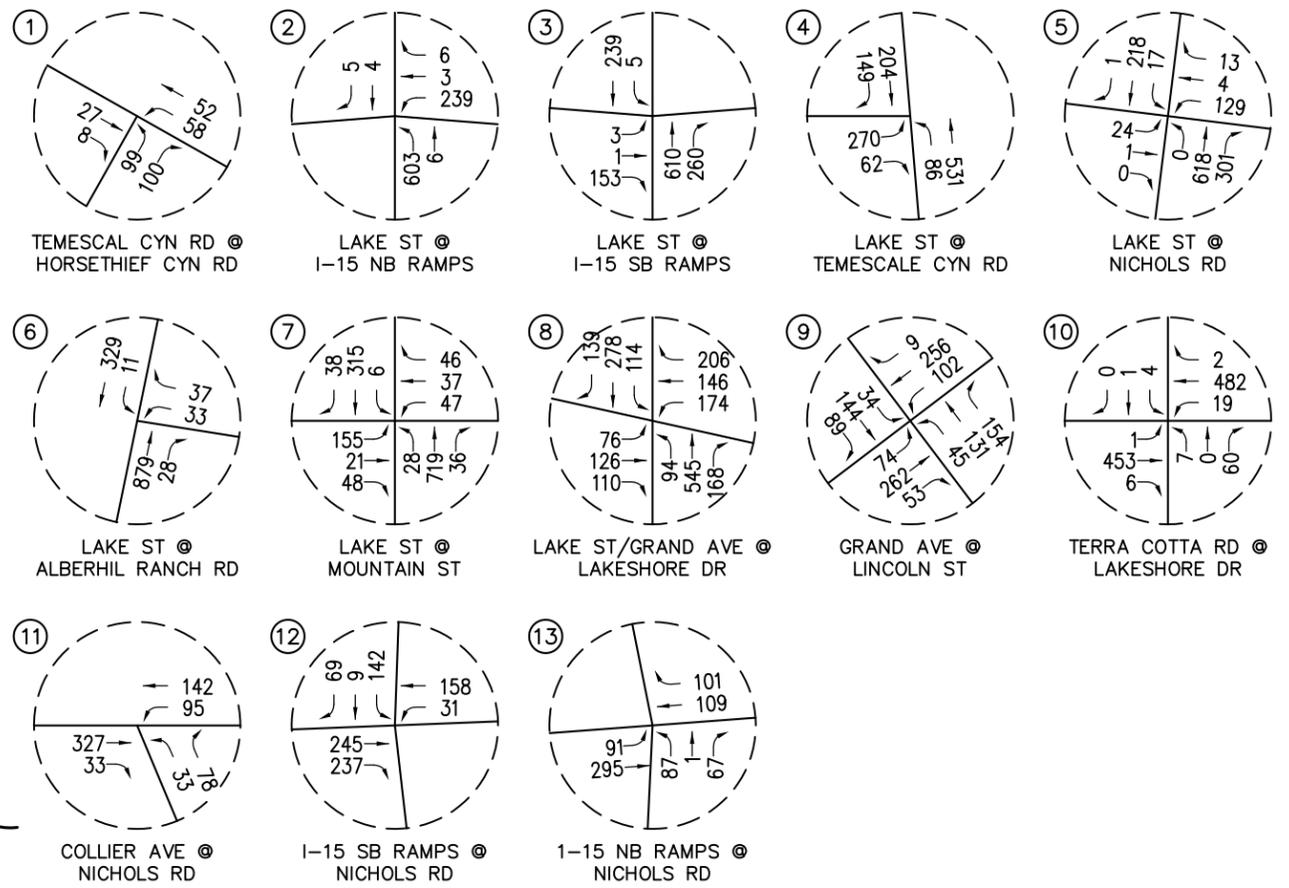
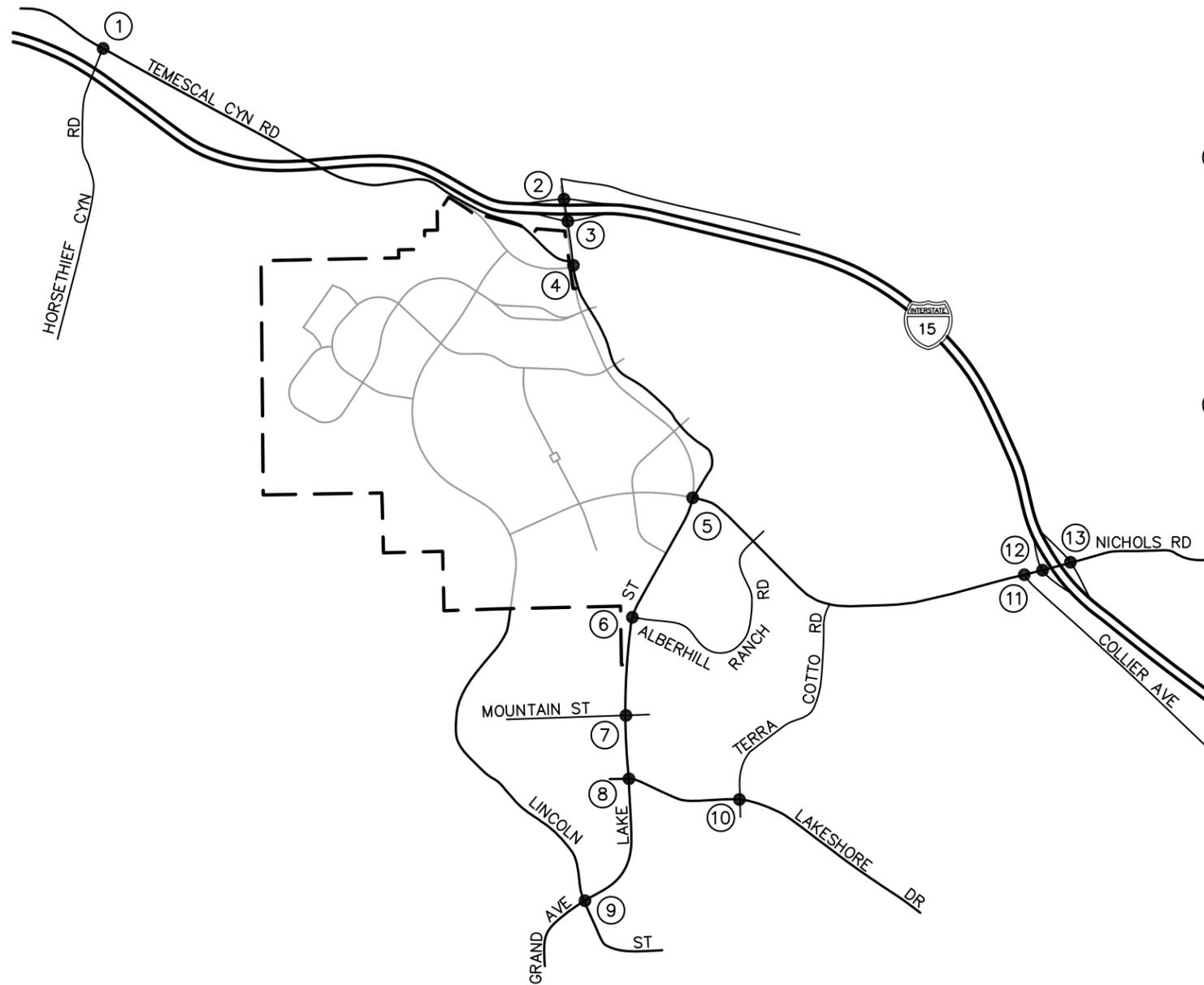
- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- V/C = Volume to Capacity ratio.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.



- KEY**
- # = STUDY INTERSECTION
 - ← = APPROACH LANE ASSIGNMENT
 - - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY
 - = TRAFFIC SIGNAL, ◻ = STOP SIGN
 - P = PARKING, NP = NO PARKING
 - U = UNDIVIDED, D = DIVIDED
 - 2 = NUMBER OF TRAVEL LANES
 - (XX) = POSTED SPEED LIMIT (MPH)
 - OL = OVERLAP PHASE

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

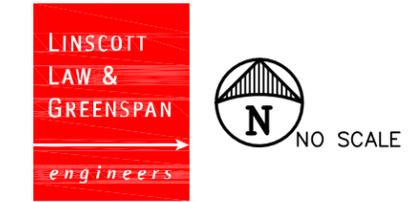
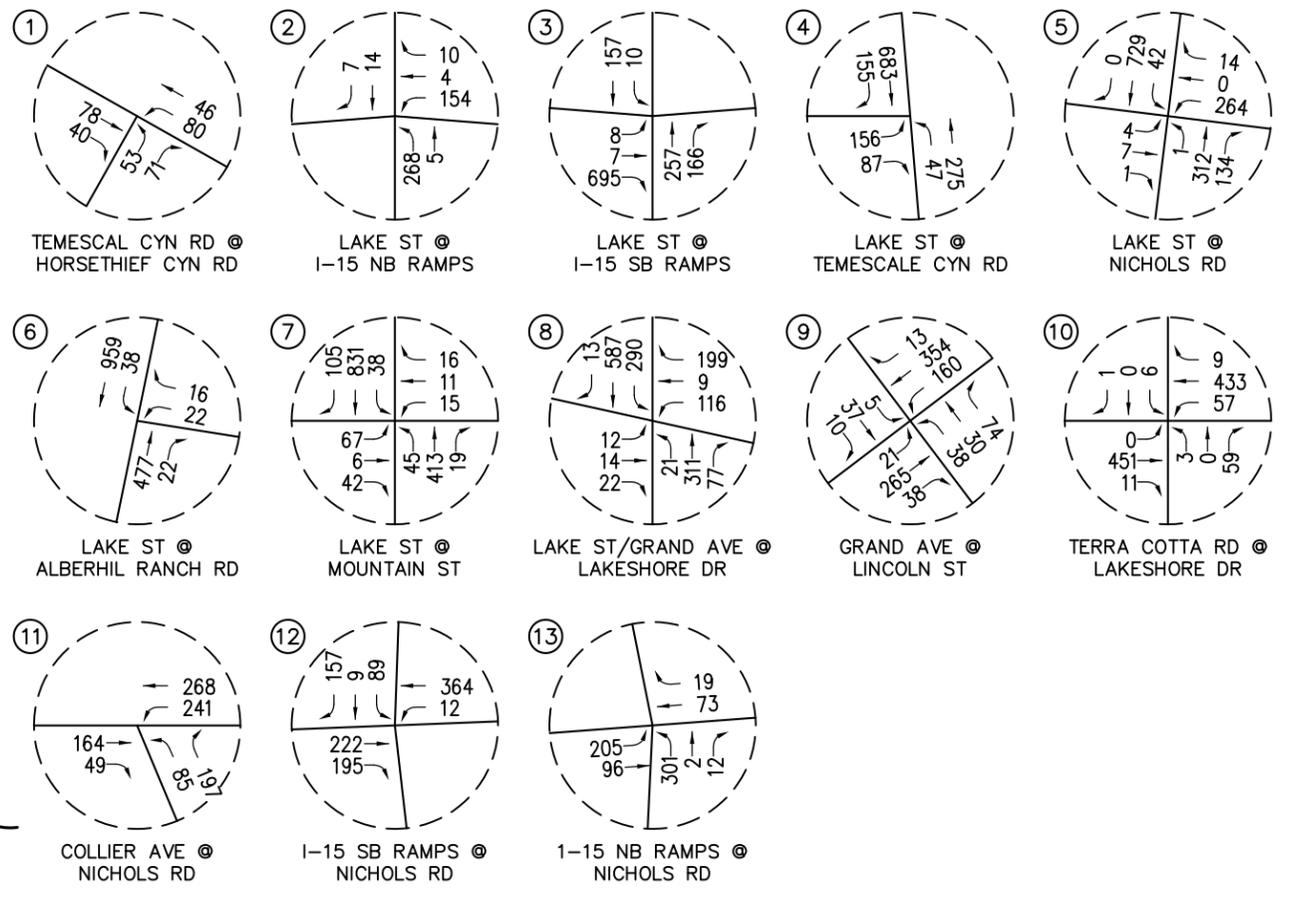
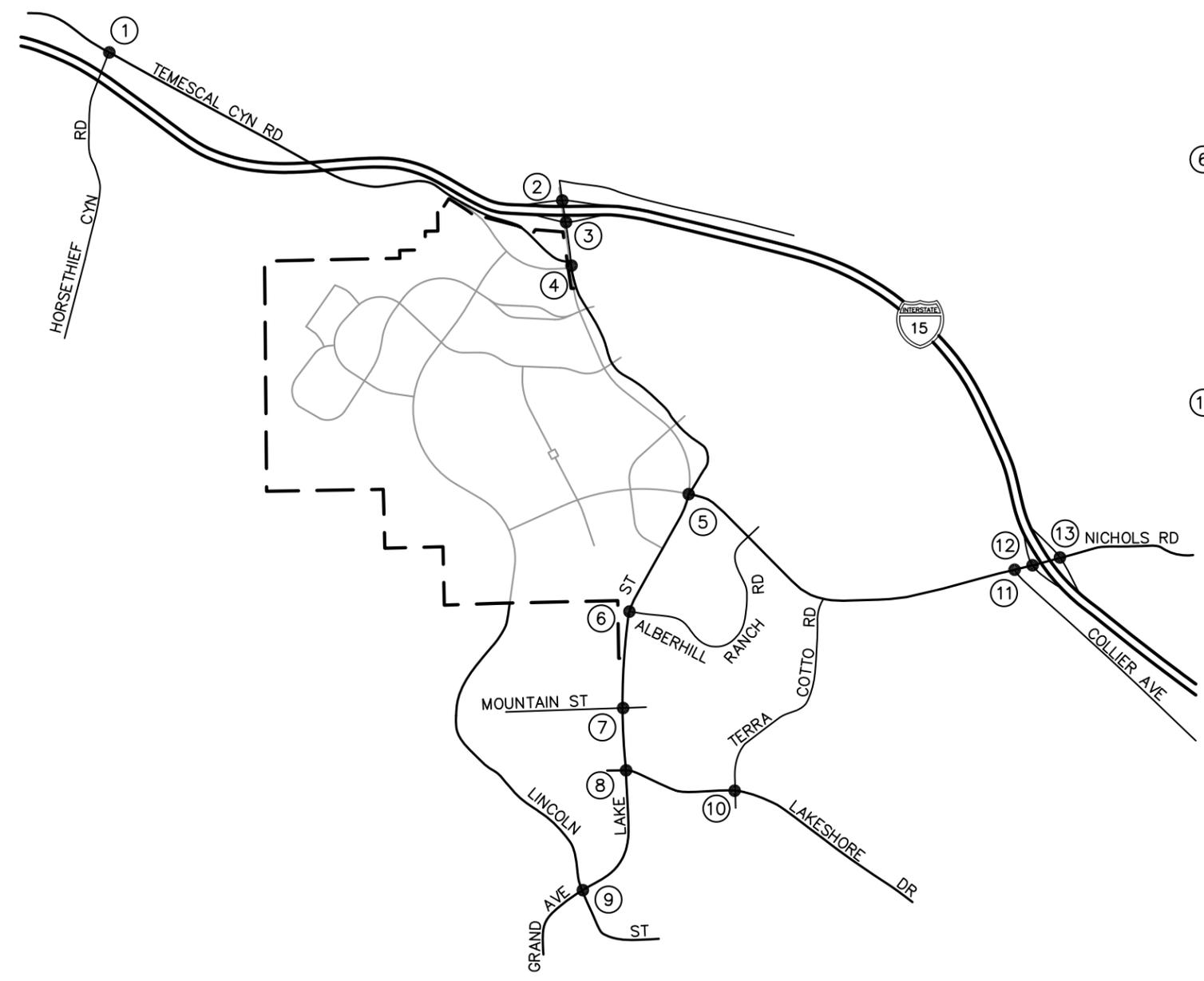
FIGURE 3-1



KEY
 # = STUDY INTERSECTION
 --- = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

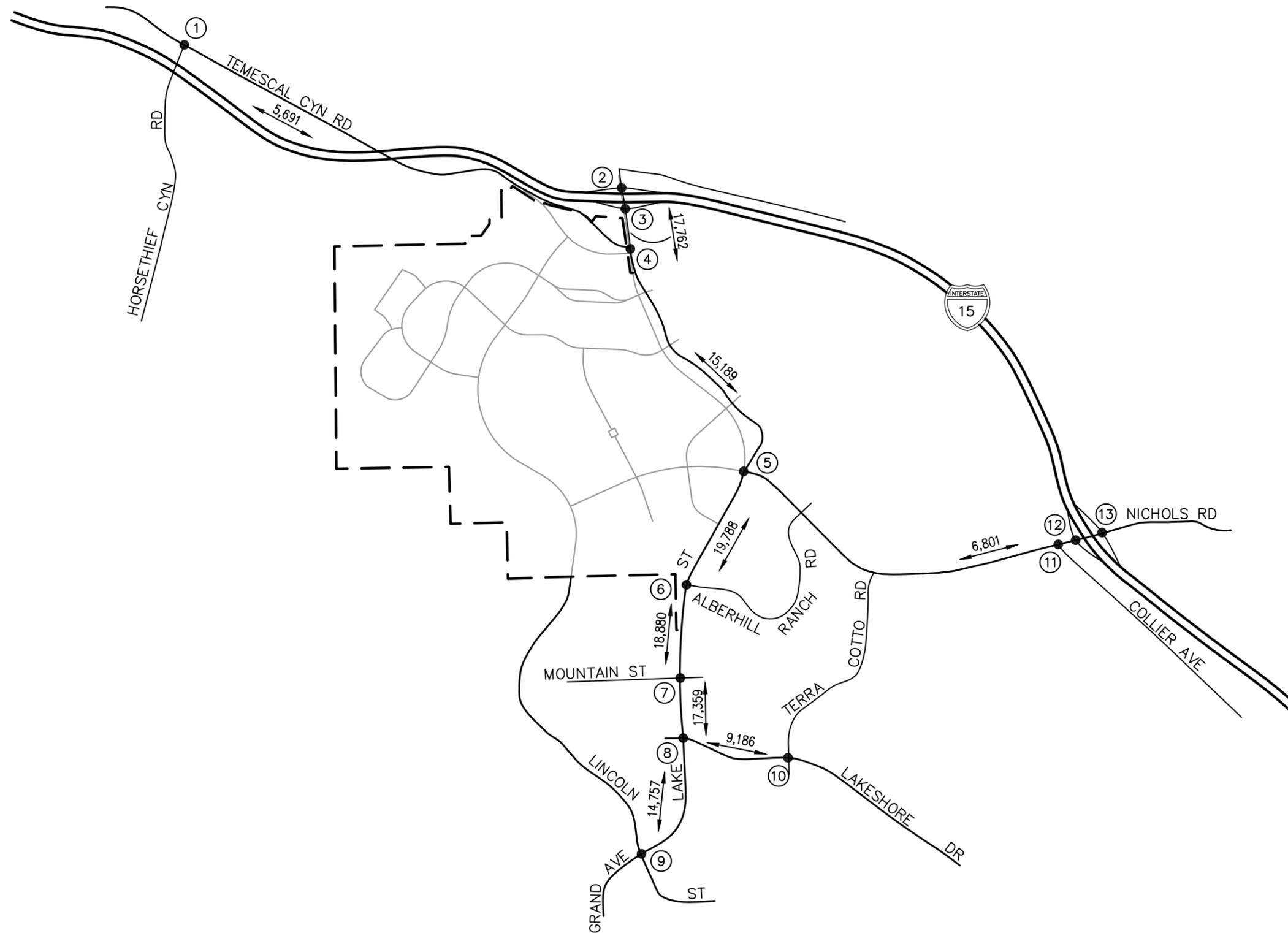
FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



KEY
 # = STUDY INTERSECTION
 --- = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 3-3
 EXISTING PM PEAK HOUR TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



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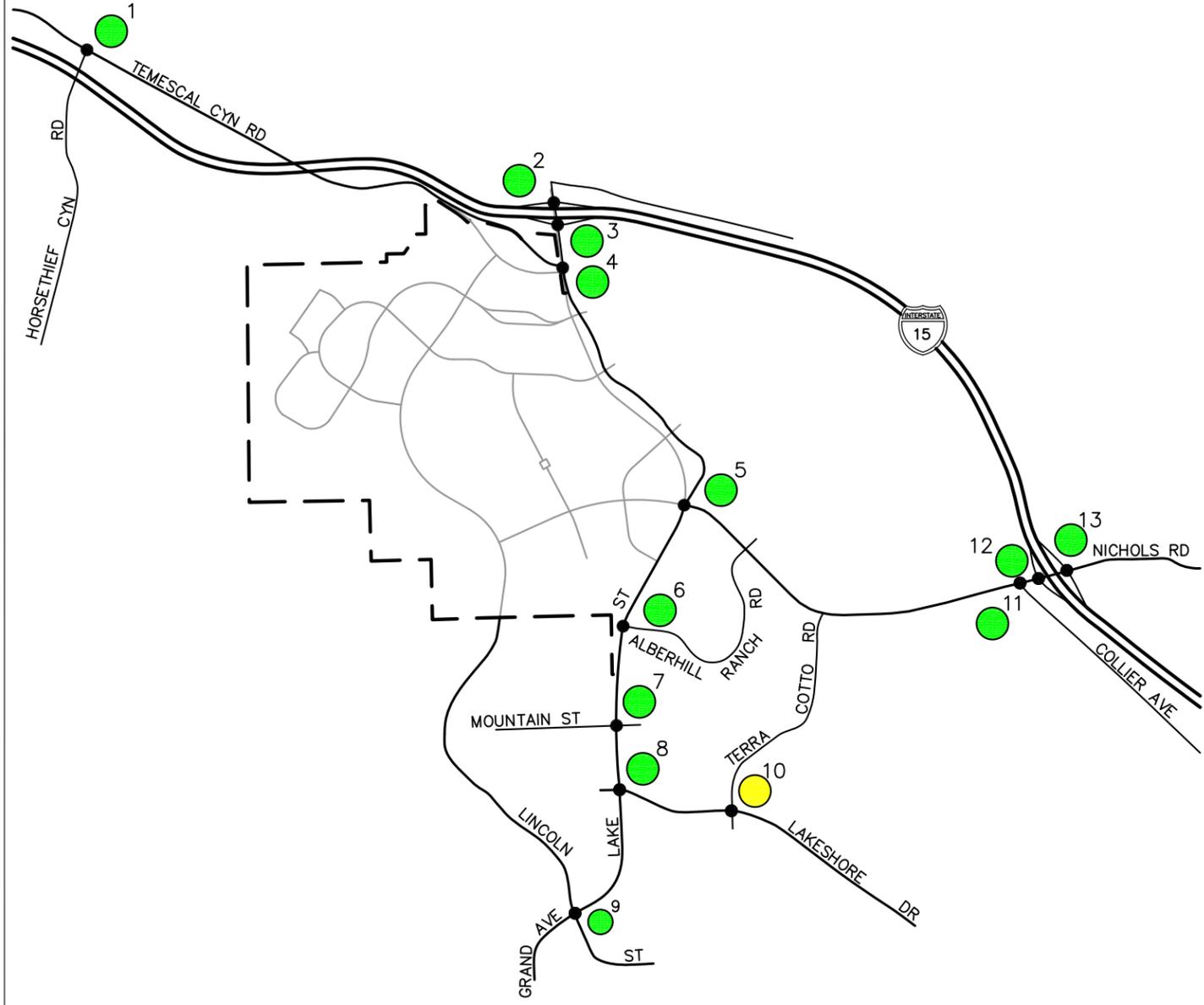


KEY
 # = STUDY INTERSECTION
 - - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

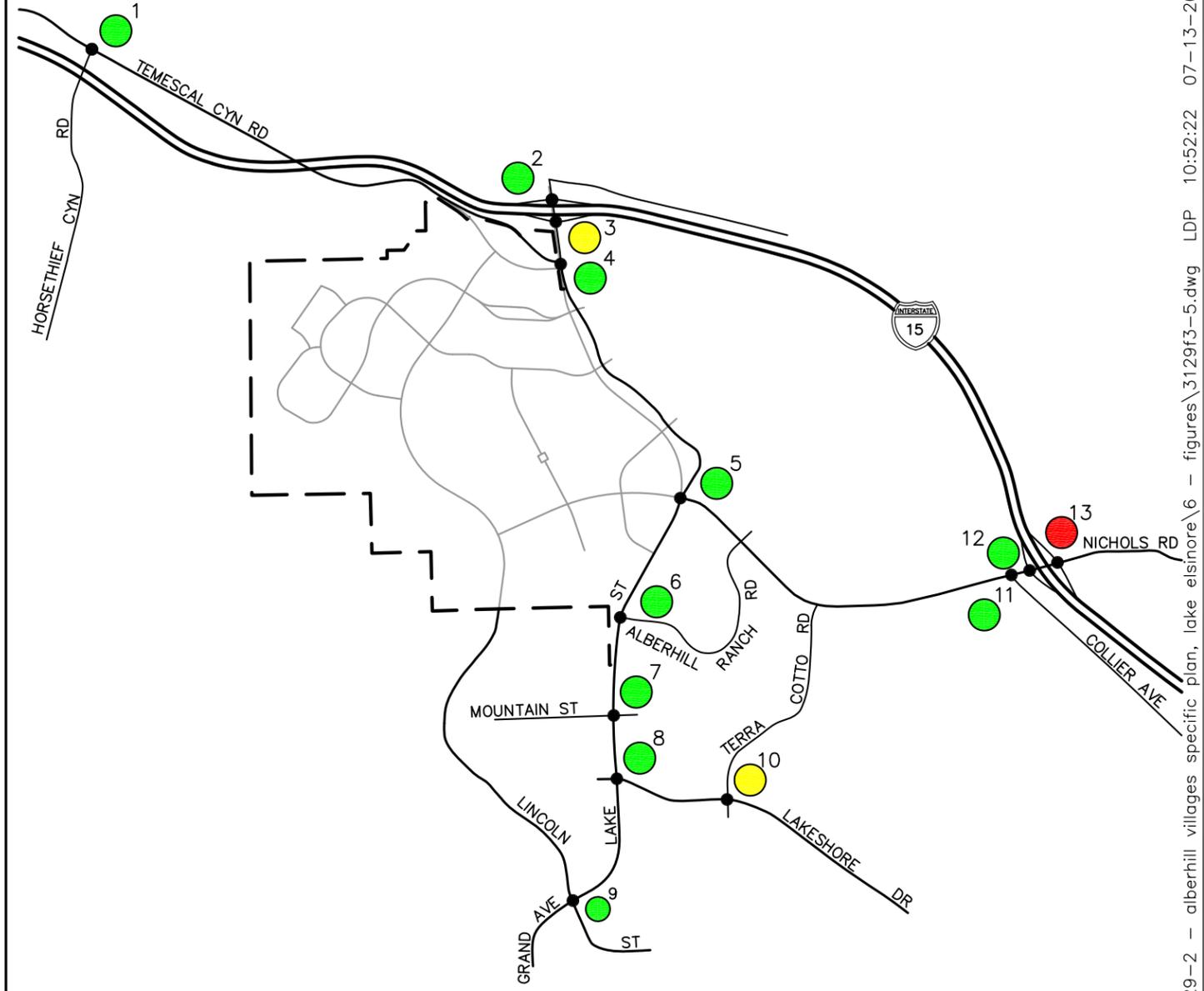
FIGURE 3-4

EXISTING DAILY TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

AM PEAK HOUR



PM PEAK HOUR



KEY

- = LOS E OR F
- = LOS D
- = LOS A, B OR C
- # = STUDY INTERSECTION
- - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY



FIGURE 3-5

EXISTING PEAK HOURS LEVEL OF SERVICE RESULTS
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

4.0 TRAFFIC FORECASTING METHODOLOGY

The General Plan Buildout forecast volumes for the Alberhill Villages Specific Plan scenarios (without and with Project) were developed using the most current City of Lake Elsinore Traffic Model.

Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update

4.1 B-turn Methodology

The base year turning movement counts for each intersection must be converted to approach and departure volumes for each leg of the intersection. Once the base counts are in this format, the difference between the buildout model and base model are then added to the base year counts for each corresponding approach and departure volume. This step provides the adjusted volumes that will be used to determine the Buildout turning movement volumes. The next process in the forecasting of future turning volumes applies the B-turn methodology. The B-turn methodology is generally described in the "*National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design*", Chapter 8. The B-turn method uses the base year turning percentages (from traffic counts) and proceeds through an iterative computational technique to produce a final set of future year turning volumes. The computations involve alternatively balancing the rows (approaches) and the columns (departures) of a turning movement matrix until an acceptable convergence is obtained. Future year link volumes are fixed using this method and the turning movements are adjusted to match. The results must be checked for reasonableness, and manual adjustments are sometimes necessary.

5.0 PROJECT TRIP CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project. The trip generation potential for the proposed Project was forecast using ITE Land Use Codes:

- 210: Single Family Detached Housing
- 220: Apartments
- 230: Residential Condominium / Townhouse
- 411: City Park
- 520: Elementary School
- 550: University / College
- 536: Private School (K-12)
- 710: General Office Building
- 820: Shopping Center

Table 5-2 summarizes the forecast daily and peak hour Project traffic volumes for a "typical" weekday. The proposed Project is forecast to generate 150,415 gross Daily trips (one half arriving and one half departing), with 9,927 gross trips (4,731 inbound, 5,196 outbound) produced in the AM peak hour and 14,575 gross trips (7,389 inbound, 7,186 outbound) produced in the PM peak hour. It should be noted that these are gross trips without the application of internal capture trip or pass-by trip reduction factors. The analyses in the preceding sections of this report for the General Plan Buildout (without and with Project) are based on traffic volumes directly obtained from most current City of Lake Elsinore Traffic Model.

In addition, the General Plan Buildout (without and with Project) volumes that have been directly obtained from the most current City of Lake Elsinore Traffic Model assume different variables in determining the trip generation for different land uses. Even though the trips generated for the Project by the traffic model are not exactly same as the ITE forecast trip generation, they are similar. The traffic model takes into account the internal capture and generates and distributes the external traffic volumes accordingly.

TABLE 5-1
PROJECT TRIP GENERATION RATES

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors¹⁰:							
▪ 210: Single Family Detached Housing (TE/DU)	9.52	25%	75%	0.75	63%	37%	1.00
▪ 220: Apartments (TE/DU)	6.65	20%	80%	0.51	65%	35%	0.62
▪ 230: Residential Condominium / Townhouse (TE/DU)	5.81	17%	83%	0.44	67%	33%	0.52
▪ 411: City Park (TE/AC) ¹¹	1.89	75%	25%	0.09	25%	75%	0.28
▪ 411: City Park (TE/AC) ¹²	1.89	75%	25%	0.09	25%	75%	0.19
▪ 520: Elementary School (TE/ST)	1.29	55%	45%	0.45	49%	51%	0.15
▪ 550: University / College (TE/ST)	1.71	78%	22%	0.17	32%	68%	0.17
▪ 536: Private School (K-12) (TE/ST)	2.48	61%	39%	0.81	43%	57%	0.17
▪ 710: General Office Building (TE/TSF)	11.03	88%	12%	1.56	17%	83%	1.49
▪ 820: Shopping Center (TE/TSF)	42.70	62%	38%	0.96	48%	52%	3.71
▪ 820: Shopping Center (TE/TSF) ^{13, 14}	32.66	62%	38%	0.69	48%	52%	3.00
▪ 820: Shopping Center (TE/TSF) ^{13, 15}	42.48	62%	38%	0.92	48%	52%	3.85
▪ 820: Shopping Center (TE/TSF) ^{13, 16}	46.53	62%	38%	1.02	48%	52%	4.19
▪ 820: Shopping Center (TE/TSF) ^{13, 17}	61.14	62%	38%	1.39	48%	52%	5.43

Notes:

- TE/DU = Trip ends per Dwelling Unit
- TE/AC = Trip ends per Acre
- TE/ST = Trip ends per Student
- TE/TSF = Trip ends per 1,000 square feet of development

¹⁰ Source: *Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012)*. Average rates used.

¹¹ The AM peak hour rates are assumed to be 5% [75% Enter / 25% Exit] of the Daily traffic and PM peak hour rates are assumed to be 15% [25% Enter / 75% Exit] of the Daily traffic for the Active Park.

¹² The AM peak hour rates are assumed to be 5% [75% Enter / 25% Exit] of the Daily traffic and PM peak hour rates are assumed to be 10% [25% Enter / 75% Exit] of the Daily traffic for the City Park.

¹³ The trip generation rates for the 810: Shopping Center are based on the equations listed below:

- Daily: $LN(T) = 0.65LN(X) + 5.83$
- AM Peak Hour: $LN(T) = 0.61LN(X) + 2.24$, [62% Enter / 38% Exit]
- PM Peak Hour: $LN(T) = 0.67LN(X) + 3.31$, [48% Enter / 52% Exit]

¹⁴ The rates are based on the Project's component square-footage of 809,500 SF.

¹⁵ The rates are based on the Project's component square-footage of 382,000 SF.

¹⁶ The rates are based on the Project's component square-footage of 294,500 SF.

¹⁷ The rates are based on the Project's component square-footage of 135,000 SF.

TABLE 5-2
PROJECT TRIP GENERATION FORECAST

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<i>Proposed Project Trip Generation Forecast:</i>							
▪ Planning Area 1a - Apartments (451 DU)	2,999	46	184	230	182	98	280
▪ Planning Area 1a - University (6,000 Students)	10,260	796	224	1,020	326	694	1,020
<i>Planning Area 1a Total:</i>	13,259	842	408	1,250	508	792	1,300
▪ Planning Area 1b - Condominiums (346 DU)	2,010	26	126	152	121	59	180
▪ Planning Area 1b - Commercial (809,500 SF)	26,441	346	212	558	1,167	1,265	2,432
▪ Planning Area 1b - Office (220,000 SF)	2,427	302	41	343	56	272	328
<i>Planning Area 1b Total:</i>	30,878	674	379	1,053	1,344	1,596	2,940
▪ Planning Area 1c - Apartments (1,594 DU)	10,600	163	650	813	642	346	988
▪ Planning Area 1c - Office (503,000 SF)	5,548	691	94	785	127	622	749
<i>Planning Area 1c Total:</i>	16,148	854	744	1,598	769	968	1,737
▪ Planning Area 2a - Single Family Residence (782 DU)	7,445	147	440	587	493	289	782
▪ Planning Area 2a - Apartments (350 DU)	2,328	36	143	179	141	76	217
<i>Planning Area 2a Total:</i>	9,773	183	583	766	634	365	999
▪ Planning Area 2b - Apartments (1,026 DU)	6,823	105	418	523	413	223	636
<i>Planning Area 2b Total:</i>	6,823	105	418	523	413	223	636
▪ Planning Area 2c - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
▪ Planning Area 2c - Active (Sports) Park (14.3 Acres)	27	1	0	1	1	3	4
▪ Planning Area 2c - Elementary School (850 Students)	1,097	211	172	383	63	65	128
▪ Planning Area 2c - Church with School (600 Students)	1,488	296	190	486	44	58	102
<i>Planning Area 2c Total:</i>	5,344	562	523	1,085	289	232	521
▪ Planning Area 3a - Single Family Residence (8 DU)	76	2	4	6	5	3	8
<i>Planning Area 3a Total:</i>	76	2	4	6	5	3	8
▪ Planning Area 4a - Single Family Residence (795 DU)	7,568	149	447	596	501	294	795
▪ Planning Area 4a - Apartments (889 DU)	5,912	91	362	453	358	193	551
▪ Planning Area 4a - City Passive Lake Park (21.3 Acres)	40	2	0	2	1	3	4
<i>Planning Area 4a Total:</i>	13,520	242	809	1,051	860	490	1,350

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

TABLE 5-2 (CONTINUED)
PROJECT TRAFFIC GENERATION FORECAST

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<i>Proposed Project Trip Generation Forecast:</i>							
▪ Planning Area 4b - Single Family Residence (234 DU)	2,228	44	132	176	147	87	234
▪ Planning Area 4b - Condominiums (467 DU)	2,713	35	170	205	163	80	243
<i>Planning Area 4b Total:</i>	4,941	79	302	381	310	167	477
▪ Planning Area 4c - Single Family Residence (190 DU)	1,809	36	107	143	120	70	190
▪ Planning Area 4c - Apartments (60 DU)	399	6	25	31	24	13	37
▪ Planning Area 4c - Commercial (382,000 SF)	16,228	219	134	353	706	765	1,471
▪ Planning Area 4c - City Passive Lake Park (15.5 Acres)	29	1	0	1	1	2	3
<i>Planning Area 4c Total:</i>	18,465	262	266	528	851	850	1,701
▪ Planning Area 5a - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
<i>Planning Area 5a Total:</i>	2,732	54	161	215	181	106	287
▪ Planning Area 5b - Single Family Residence (92 DU)	876	17	52	69	58	34	92
▪ Planning Area 5b - Condominiums (237 DU)	1,377	18	86	104	82	41	123
▪ Planning Area 5b - Active (Sports) Park (45.9 Acres)	87	3	1	4	3	10	13
<i>Planning Area 5b Total:</i>	2,340	38	139	177	143	85	228
▪ Planning Area 6a - Condominiums (100 DU)	581	7	37	44	35	17	52
▪ Planning Area 6a - Commercial (294,500 SF)	13,704	187	114	301	593	642	1,235
▪ Planning Area 6a - Office (98,000 SF)	1,081	135	18	153	25	121	146
<i>Planning Area 6a Total:</i>	15,366	329	169	498	653	780	1,433
▪ Planning Area 6b - Condominiums (50 DU)	291	4	18	22	17	9	26
▪ Planning Area 6b - Commercial (135,000 SF)	8,254	116	71	187	352	381	733
▪ Planning Area 6b - Office (65,000 SF)	717	89	12	101	16	81	97
▪ Planning Area 6b - Church with School (600 Students)	1,488	296	190	486	44	58	102
<i>Planning Area 6b Total:</i>	10,750	505	291	796	429	529	958
Proposed Project Trip Generation Forecast	150,415	4,731	5,196	9,927	7,389	7,186	14,575

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

6.0 FUTURE TRAFFIC CONDITIONS

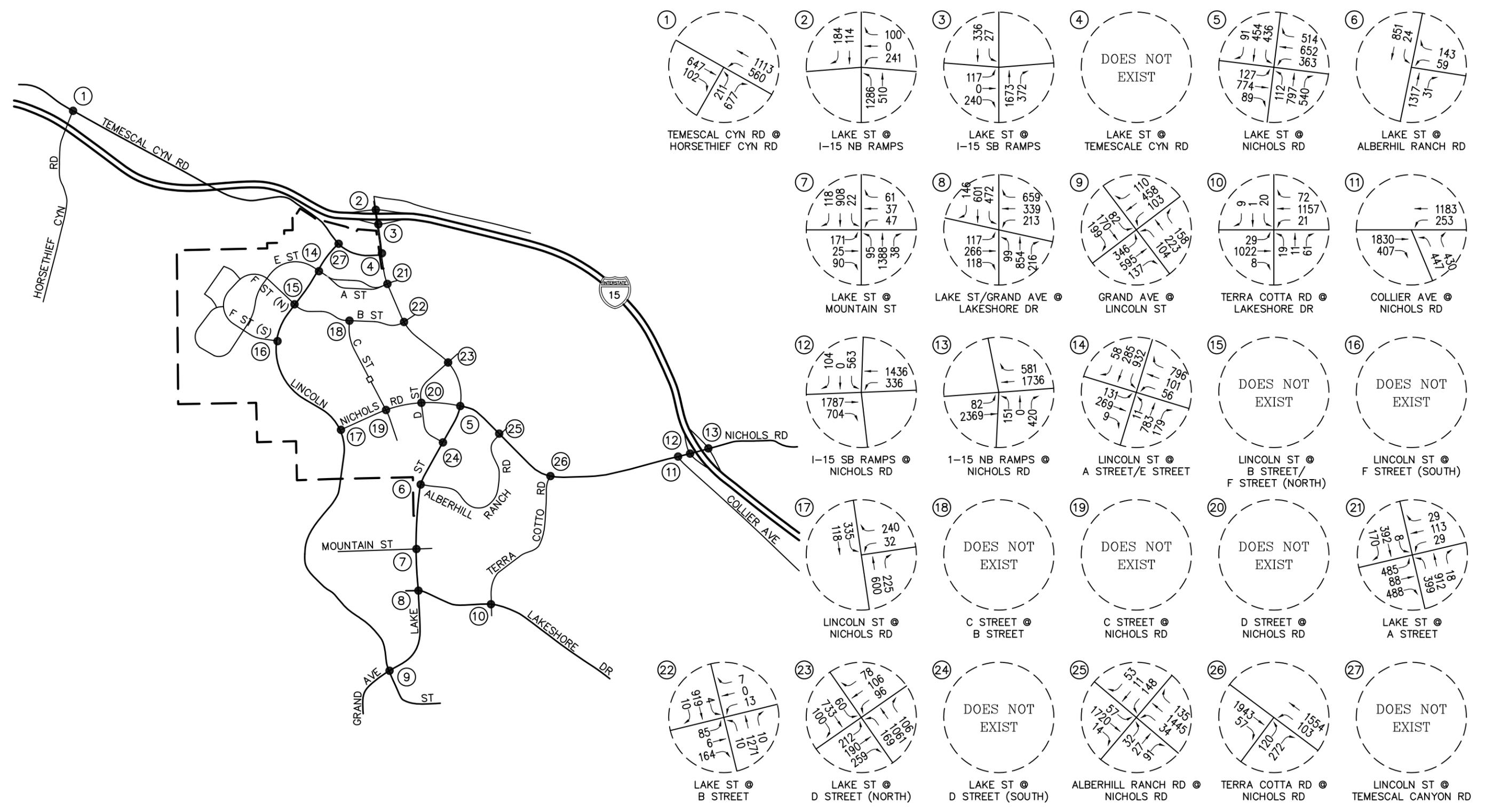
The General Plan Buildout traffic volume forecast for the Alberhill Villages Specific Plan scenarios (without and with Project) were developed from the most current City of Lake Elsinore Traffic Model. Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update. *Appendix C* contains the detailed General Plan Buildout traffic volume data. It should be noted that the PM peak hour traffic volume forecast has been adjusted (re-routed within the study area) at up to sixteen study intersections to account for potential turning capacity constraints and is denoted in parenthesis in *Appendix C*.

6.1 General Plan Buildout Without Project Traffic Volumes

Figures 6-1 and *6-2* present the AM and PM peak hour General Plan Buildout Without Project traffic volumes, respectively, at the key study intersections. In addition, *Figure 6-3* presents the Daily General Plan Buildout Without Project traffic volumes at the key study roadway links. It should be noted that in order to remain conservative and the fact that the Alberhill Villages Specific Plan development consists of a significant volume of potential traffic generation within the study area, the "Without Project" roadway network geometry assumed Lake Street, Lincoln Street, Temescal Canyon Road, and Nichols Road as four lane roadways.

6.2 General Plan Amendment Buildout With Project Traffic Volumes

Figures 6-4 and *6-5* present the AM and PM peak hour General Plan Buildout With Project traffic volumes, respectively, at the key study intersections. In addition, *Figure 6-6* presents the Daily General Plan Buildout With Project traffic volumes at the key study roadway links. It should be noted that Alberhill Villages Specific Plan will amend the General Plan Circulation Element to modify the roadway network of the current General Plan with the Project site consisting of connecting Temescal Canyon Road to Lake Street within the general proximity of the existing connection to Lake Street and re-aligning Lincoln Street to connect with Temescal Canyon Road as a "T" Intersection.

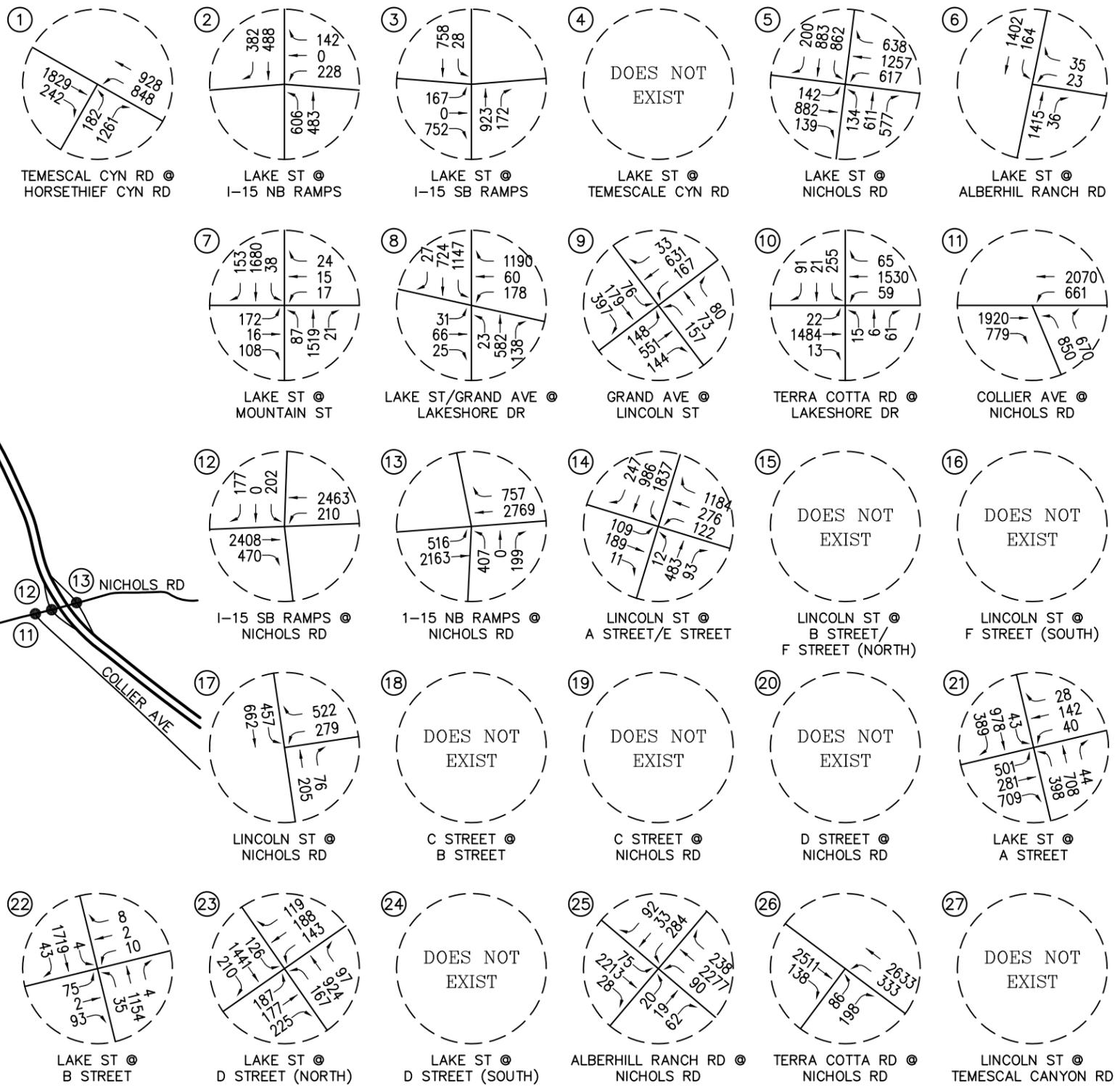
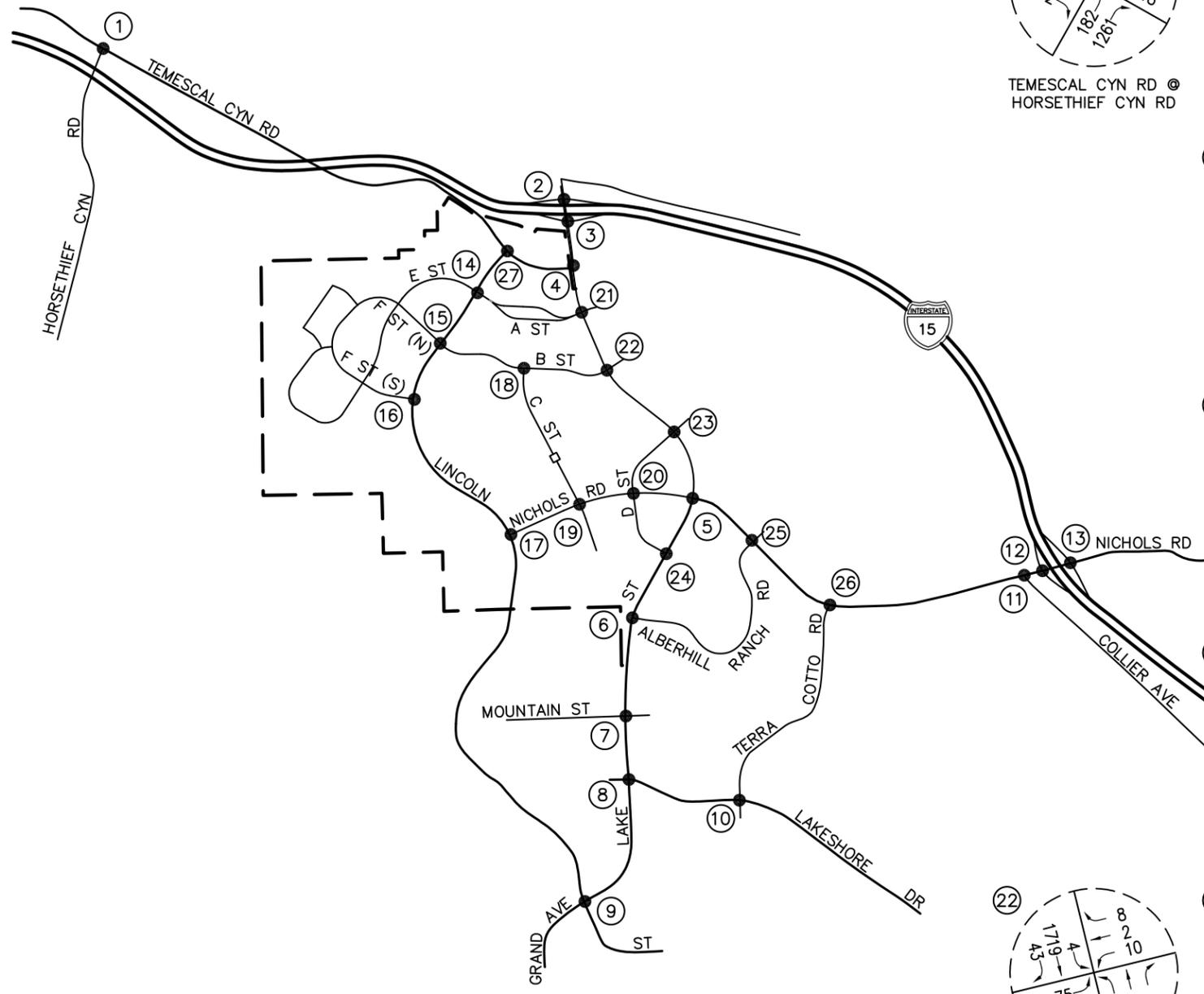


KEY

- # = STUDY INTERSECTION
- - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 6-1

**GENERAL PLAN BUILDOUT WITHOUT PROJECT
AM PEAK HOUR TRAFFIC VOLUMES
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE**



KEY

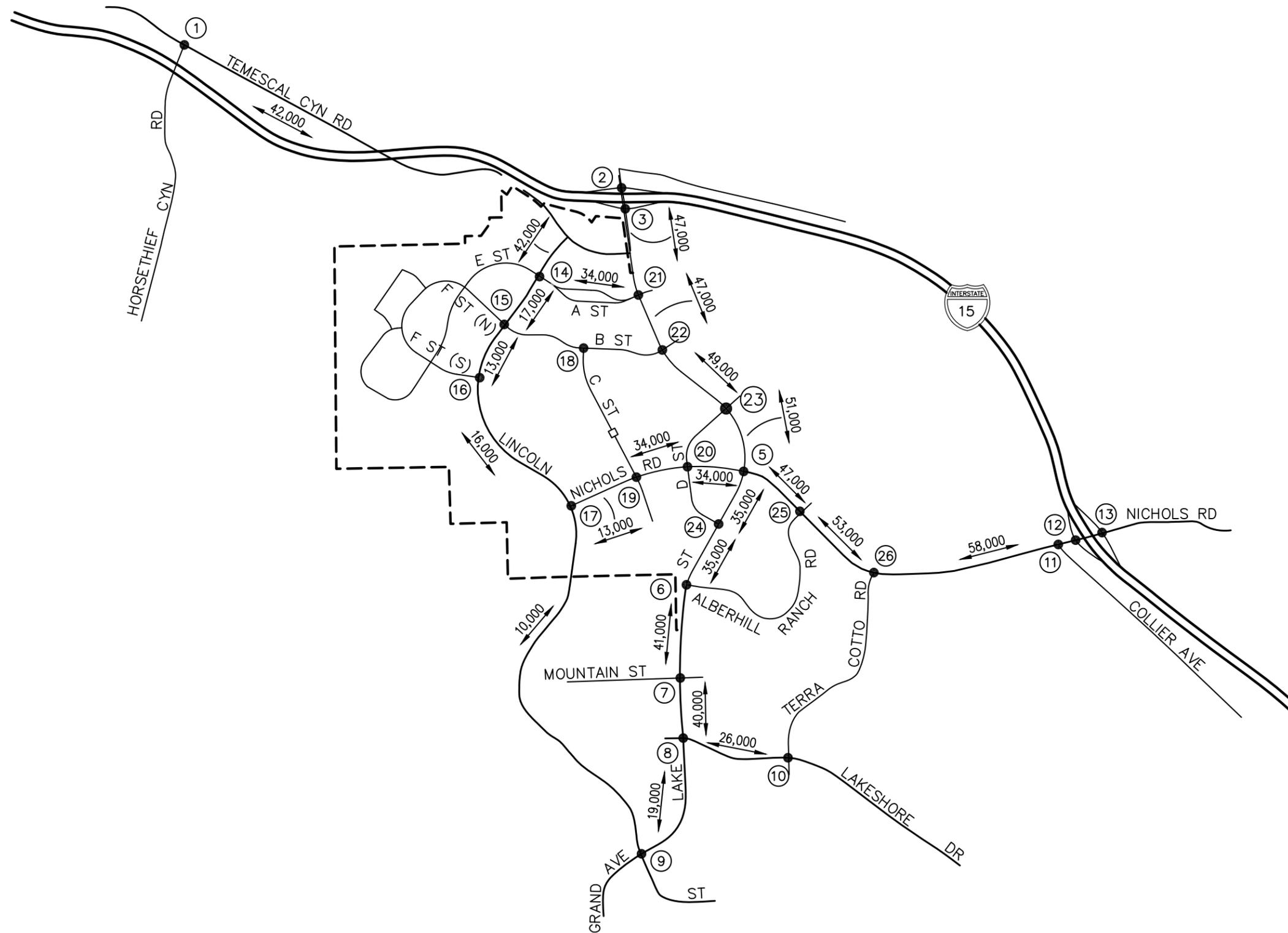
① = STUDY INTERSECTION

--- = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 6-2

GENERAL PLAN BUILDOUT WITHOUT PROJECT
PM PEAK HOUR TRAFFIC VOLUMES
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

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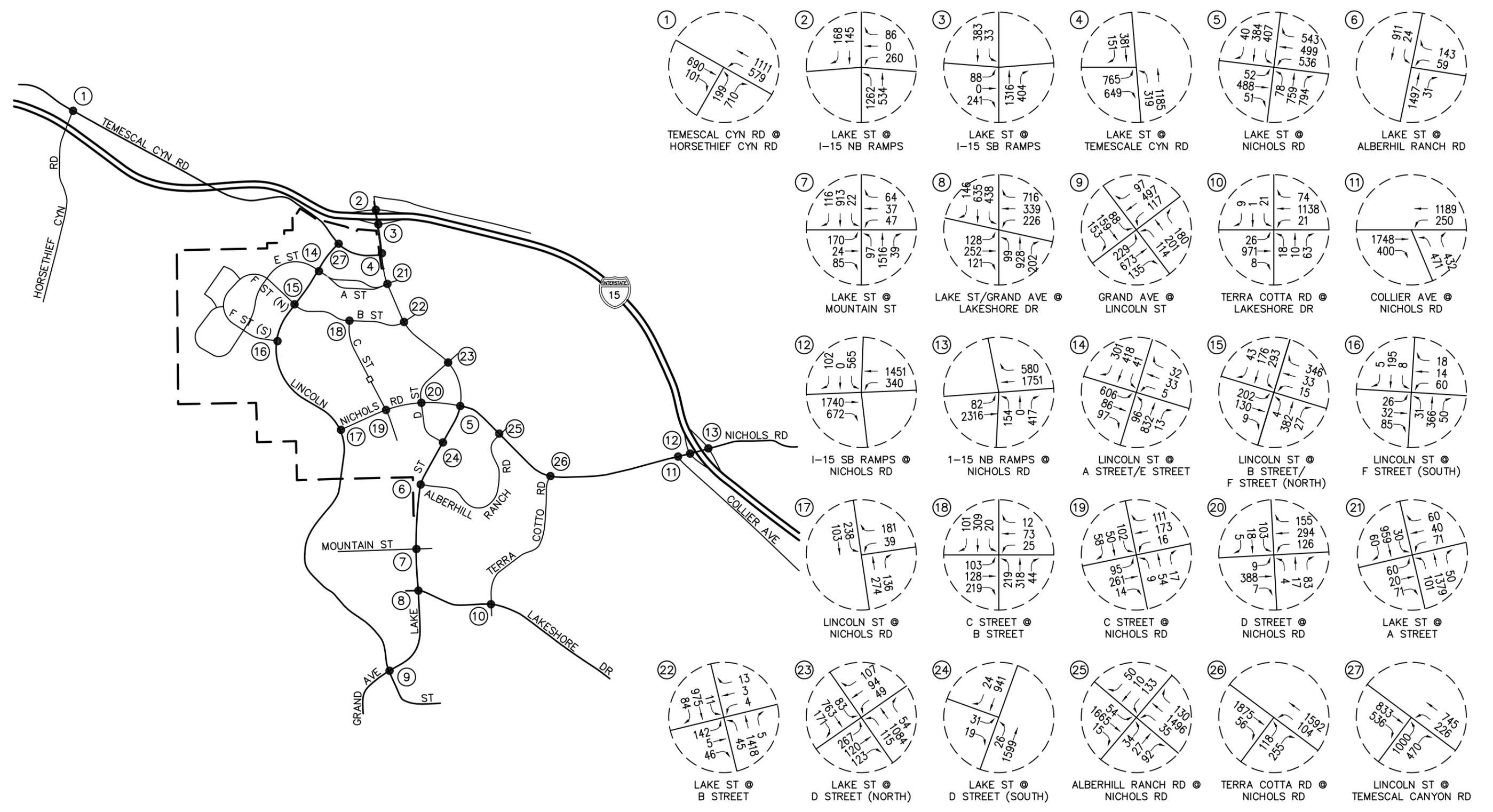
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KEY
 # = STUDY INTERSECTION
 --- = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 6-3

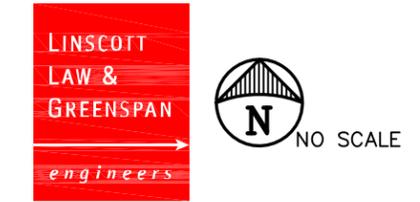
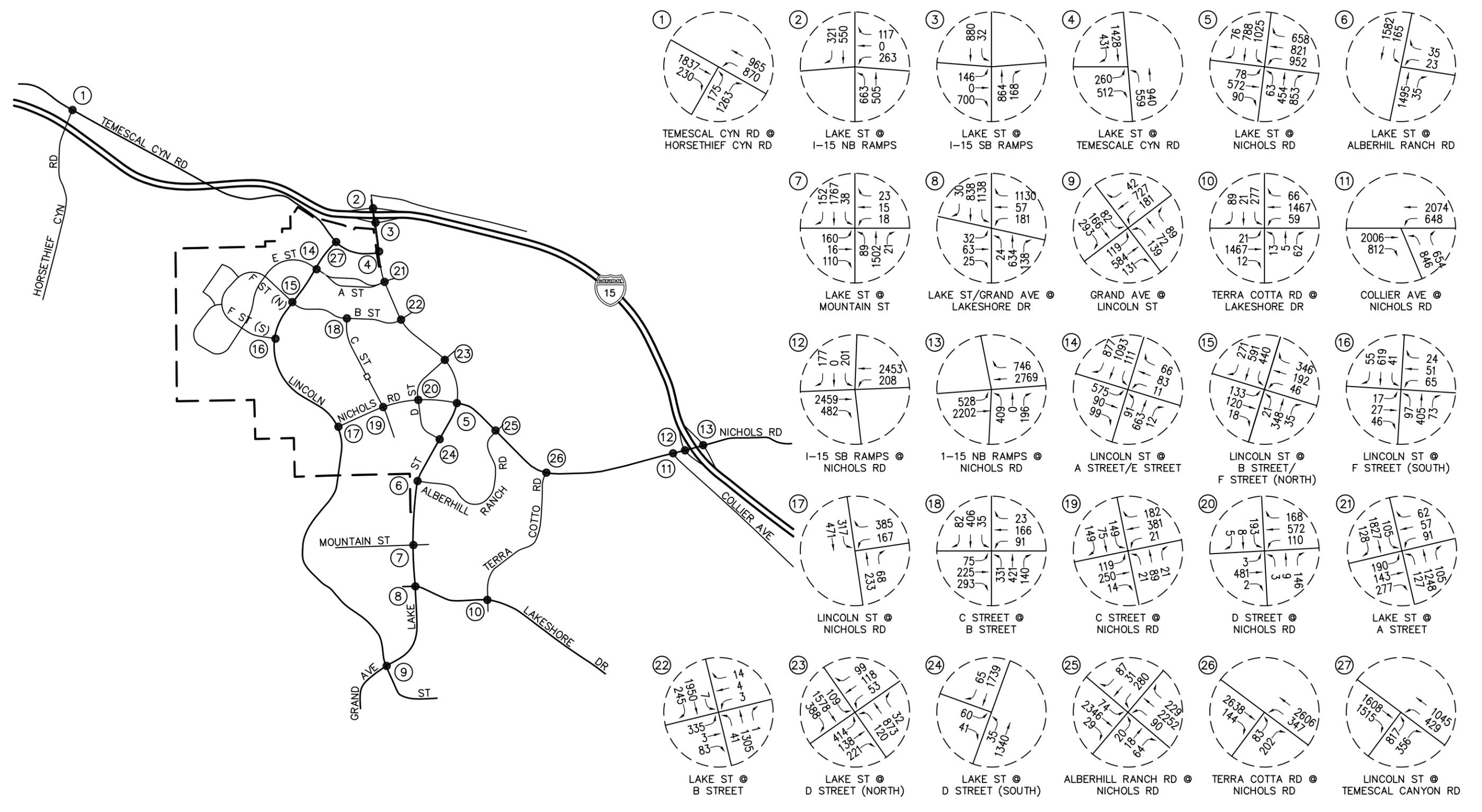
GENERAL PLAN BUILDOUT WITHOUT
 PROJECT DAILY TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



KEY
 # = STUDY INTERSECTION
 - - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 6-4

**GENERAL PLAN BUILDOUT WITH PROJECT
 AM PEAK HOUR TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE**



KEY
 # = STUDY INTERSECTION
 - - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 6-5
 GENERAL PLAN BUILDOUT WITH PROJECT
 PM PEAK HOUR TRAFFIC VOLUMES
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



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KEY

- ① = STUDY INTERSECTION
- - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY



FIGURE 6-6

GENERAL PLAN BUILDOUT WITH
PROJECT DAILY TRAFFIC VOLUMES
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

7.0 GENERAL PLAN BUILDOUT TRAFFIC IMPACT ANALYSIS

The relative impact of the added Project traffic volumes generated by the proposed Project during the Daily, AM, and PM peak hours was evaluated based on analysis of future operating conditions at the key study intersections and roadway segments, with and without, the proposed Project for the General Plan Buildout traffic conditions. The previously discussed capacity analysis procedures were utilized to investigate the future delay relationships and volume to capacity ratios and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

7.1 General Plan Buildout Intersection Capacity Analysis

Table 7-1 summarizes the AM and PM peak hour Level of Service results at the key study intersections for the General Plan Buildout traffic conditions. The first column (1) of Delay/LOS values in *Table 7-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-1*). The second column (2) lists forecast General Plan Buildout Without Project traffic conditions based on future intersection geometry and planned improvements, as presented in **Figure 7-1**. It should be noted that the planned intersection improvements represent the minimum intersection improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions as well as planned internal intersection improvements that the Project would construct as part of the Specific Plan development buildout. The third column (3) lists forecast General Plan Buildout With Project traffic conditions based on future intersection geometry and planned improvements, as presented in *Figure 7-1* and the fourth column (4), indicates whether the traffic associated with the Project will have a significant impact based on the significant traffic impact criteria mention in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements to achieve an acceptable level of service.

7.1.1 Existing Traffic Conditions

Thirteen (13) key existing study intersections were analyzed for the Existing traffic conditions. As previously presented in *Table 3-1*, review of *Table 7-1* indicates that based on the HCM method of analysis and the LOS criteria mentioned in this report, one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
13. I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

7.1.2 General Plan Buildout Without Project Traffic Conditions

Nineteen (19) key study intersections were analyzed for the General Plan Buildout Without Project traffic conditions. Review of Column (2) of *Table 7-1* shows that ten (10) key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse during the AM and/or PM peak hours under General Plan Buildout Without Project traffic conditions. The remaining nine (9) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse levels of service are:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
1. Horsethief Canyon Road at Temescal Canyon Rd	OVRFL ¹⁸	F	OVRFL ¹⁸	F
5. Lake Street at Nichols Road	--	--	80.1	F
10. Terra Cotta Road at Lakeshore Drive	OVRFL ¹⁸	F	OVRFL ¹⁸	F
11. Collier Avenue at Nichols Road	138.5	F	331.1	F
12. I-15 Southbound Ramps at Nichols Road	--	--	90.1	F
13. I-15 Northbound Ramps at Nichols Road	80.0	E	257.5	F
14. Lincoln Street at A Street/E Street	280.4	F	481.0	F
21. Lake Street at A Street	--	--	133.3	F
25. Alberhill Ranch Road at Nichols Road	--	--	66.3	F
26. Terra Cotta Road at Nichols Road	--	--	59.0	F

7.1.3 General Plan Amendment Buildout With Project Traffic Conditions

Twenty-seven (27) key study intersections were analyzed for the General Plan Buildout With Project traffic conditions. Review of Columns (3) of *Table 7-1* shows that twelve (12) of the key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse with the addition of Project traffic based on the LOS impact criteria mentioned in this report. The remaining fifteen (15) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse LOS are listed below:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (s/v)</u>	<u>LOS</u>	<u>Delay (s/v)</u>	<u>LOS</u>
1. Horsethief Canyon Road at Temescal Canyon Rd	OVRFL ¹⁸	F	OVRFL ¹⁸	F
4. Lake Street at Temescal Canyon Road	--	--	120.2	F
5. Lake Street at Nichols Road	87.6	F	147.6	F
10. Terra Cotta Road at Lakeshore Drive	848.4	F	OVRFL ¹⁸	F
11. Collier Avenue at Nichols Road	133.9	F	339.6	F
12. I-15 Southbound Ramps at Nichols Road	--	--	93.3	F
13. I-15 Northbound Ramps at Nichols Road	77.1	E	258.0	F

¹⁸ OVRFL = Exceeds analysis model capabilities (Overflow conditions).

14.	Lincoln Street at A Street/E Street	--	--	123.9	F
23.	Lake Street at D Street (North)	--	--	73.8	E
25.	Alberhill Ranch Road at Nichols Road	--	--	67.3	E
26.	Terra Cotta Road at Nichols Road	--	--	72.3	E
27.	Lincoln Street at Temescal Canyon Road	122.8	F	342.0	F

Review of column (4) indicates that these twelve (12) intersections will have a significant impact when compared to the City of Lake Elsinore LOS criteria. It should be noted that the recommended improvements outlined in this report will offset the impact of the General Plan Buildout With Project traffic and bring the significantly impacted intersections to pre-project and/or acceptable conditions as shown in column (5).

To supplement the level of service results as presented in *Table 7-1*, **Figure 7-2** graphically represents the comparison between General Plan Buildout Without Project and General Plan Buildout With Project traffic conditions level of service results for the AM and PM peak hours.

In addition, **Figure 7-3** graphically represents the comparison between General Plan Buildout With Project and General Plan Buildout With Project With Recommended Improvements traffic conditions level of service results for the AM and PM peak hours.

Appendix D contains the General Plan Buildout Traffic Conditions Delay/LOS calculation worksheets for the key study intersections.

TABLE 7-1
GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY¹⁹

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Horsethief Canyon Road at Temescal Canyon Road	AM	10.6	B	OVRFL	F	OVRFL	F	Yes	18.9	B
	PM	10.6	B	OVRFL	F	OVRFL	F	Yes	27.7	C
2. Lake Street at I-15 Northbound Ramps	AM	23.0	C	20.8	C	20.2	C	No	--	--
	PM	18.8	C	24.7	C	24.8	C	No	--	--
3. Lake Street at I-15 Southbound Ramps	AM	11.4	B	18.3	B	16.3	B	No	--	--
	PM	26.0	D	39.3	D	33.3	C	No	--	--
4. Lake Street at Temescal Canyon Road	AM	19.6	B	--	--	34.1	C	No	28.7	C
	PM	16.3	B	--	--	120.2	F	Yes	38.6	D
5. Lake Street at Nichols Road	AM	21.7	C	52.9	D	87.6	F	Yes	31.0	C
	PM	29.1	C	80.1	F	147.6	F	Yes	34.6	C
6. Lake Street at Alberhill Ranch Road	AM	8.4	A	10.9	B	11.1	B	No	--	--
	PM	27.1	C	9.8	A	9.8	A	No	--	--
7. Lake Street at Mountain Street	AM	20.6	C	18.3	B	18.6	B	No	--	--
	PM	12.7	B	18.3	B	17.8	B	No	--	--
8. Lake Street/Grand Avenue at Lakeshore Drive	AM	30.1	C	38.0	D	39.3	D	No	--	--
	PM	21.9	C	28.4	C	28.2	C	No	--	--
9. Grand Avenue at Lincoln Street	AM	28.8	C	31.8	C	29.6	C	No	--	--
	PM	23.9	C	35.2	D	32.1	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

¹⁹ *Appendices B and D* contain the Delay/LOS calculation worksheets for all study intersections.

TABLE 7-1 (CONTINUED)
GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY²⁰

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
10. Terra Cotta Road at Lakeshore Drive	AM	33.4	D	OVRFL	F	848.4	F	Yes	14.9	B
	PM	25.8	D	OVRFL	F	OVRFL	F	Yes	28.4	C
11. Collier Avenue at Nichols Road ²¹	AM	13.2	B	138.5	F	133.9	F	Yes	Does not Exist Part of Intersection 12	
	PM	18.4	C	331.1	F	339.6	F	Yes		
12. I-15 Southbound Ramps at Nichols Road ²¹	AM	12.5	B	49.5	D	46.9	D	No	20.1	C
	PM	13.2	B	90.1	F	93.3	F	Yes	50.9	D
13. I-15 Northbound Ramps at Nichols Road ²¹	AM	23.7	C	80.0	E	77.1	E	Yes	21.9	C
	PM	43.6	E	257.5	F	258.0	F	Yes	18.9	B
14. Lincoln Street at A Street/E Street ²²	AM	--	--	280.4	F	39.6	D	No	27.3	C
	PM	--	--	481.0	F	123.9	F	Yes	43.6	D
15. Lincoln Street at B Street/F Street (North) ²³	AM	--	--	--	--	28.4	C	No	--	--
	PM	--	--	--	--	33.0	C	No	--	--
16. Lincoln Street at F Street (South) ²³	AM	--	--	--	--	19.1	B	No	--	--
	PM	--	--	--	--	17.7	B	No	--	--
17. Lincoln Street at Nichols Road ²²	AM	--	--	28.0	C	24.4	C	No	--	--
	PM	--	--	28.2	C	24.0	C	No	--	--
18. C Street at B Street ²³	AM	--	--	--	--	16.3	B	No	--	--
	PM	--	--	--	--	28.9	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- **OVRFL** = Exceeds analysis model capabilities (Overflow conditions).

²⁰ *Appendices B and D* contain the Delay/LOS calculation worksheets for all study intersections.

²¹ The improvements for this intersection are part of the proposed I-15/Nichols Road Interchange Improvement Project.

²² Intersection does not exist for Existing traffic conditions.

²³ Intersection does not exist for Existing and General Plan Buildout Without Project traffic conditions.

TABLE 7-1 (CONTINUED)
GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY²⁴

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
19. C Street at Nichols Road ²⁵	AM	--	--	--	--	23.9	C	No	--	--
	PM	--	--	--	--	23.9	C	No	--	--
20. D Street at Nichols Road ²⁵	AM	--	--	--	--	20.2	C	No	--	--
	PM	--	--	--	--	21.7	C	No	--	--
21. Lake Street at A Street ^{26, 27}	AM	--	--	42.5	D	14.0	B	No	15.9	B
	PM	--	--	133.3	F	34.5	C	No	25.7	C
22. Lake Street at B Street ^{26, 27}	AM	--	--	15.1	B	14.4	B	No	14.9	B
	PM	--	--	11.6	B	34.4	C	No	23.1	C
23. Lake Street at D Street (North) ²⁶	AM	--	--	27.3	C	26.0	C	No	24.8	C
	PM	--	--	32.6	C	73.8	E	Yes	38.0	D
24. Lake Street at D Street (South) ²⁵	AM	--	--	--	--	17.1	B	No	--	--
	PM	--	--	--	--	6.7	A	No	--	--
25. Alberhill Ranch Road at Nichols Road ²⁶	AM	--	--	26.1	C	24.9	C	No	20.8	C
	PM	--	--	66.3	E	67.3	E	Yes	31.1	C
26. Terra Cotta Road at Nichols Road ²⁶	AM	--	--	24.8	C	21.8	C	No	14.7	B
	PM	--	--	59.0	E	72.3	E	Yes	15.6	B
27. Lincoln Street at Temescal Canyon Road ²⁵	AM	--	--	--	--	122.8	F	Yes	24.8	C
	PM	--	--	--	--	342.0	F	Yes	40.0	D

Notes:

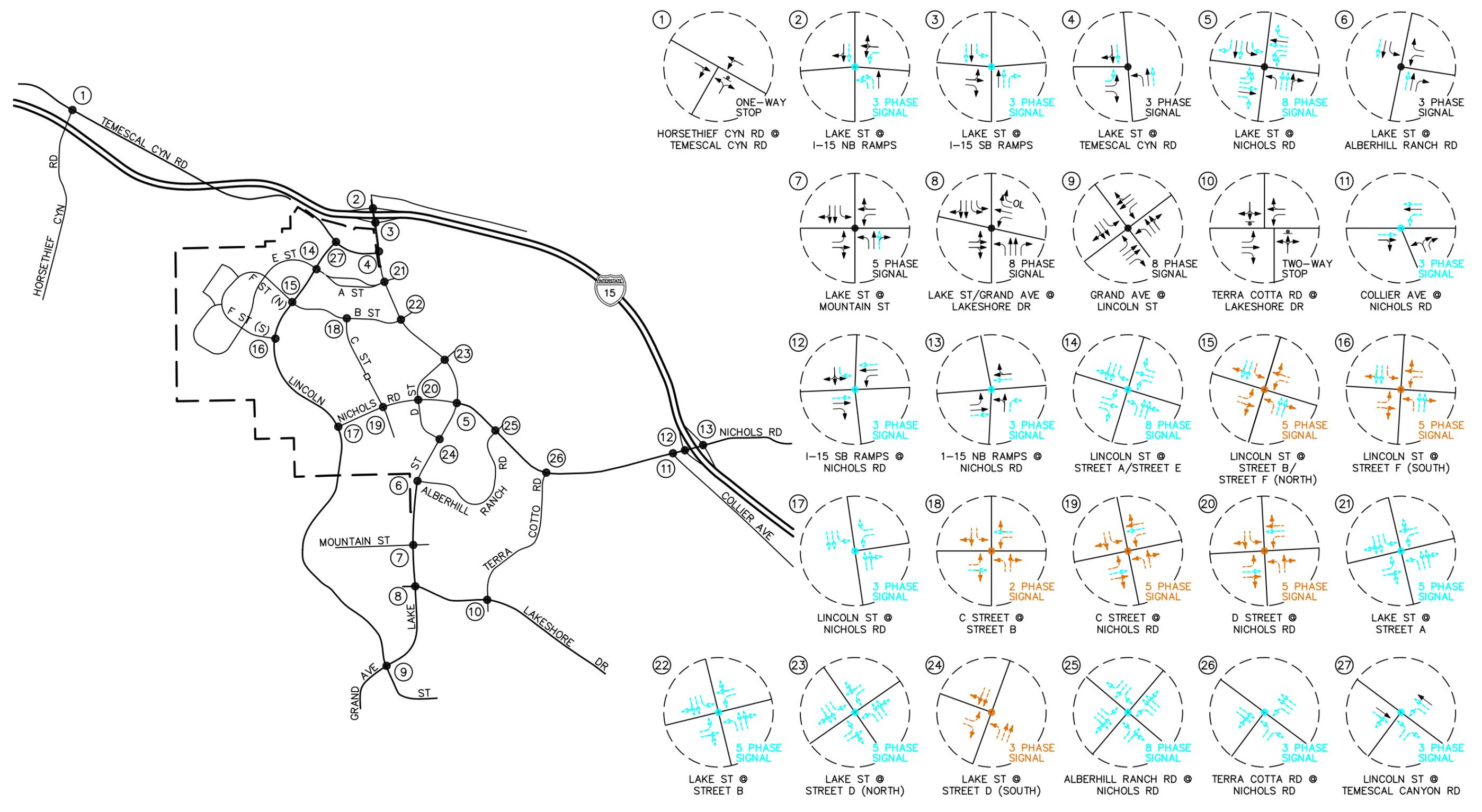
- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

²⁴ *Appendices B and D* contain the Delay/LOS calculation worksheets for all study intersections.

²⁵ Intersection does not exist for Existing and General Plan Buildout Without Project traffic conditions.

²⁶ Intersection does not exist for Existing traffic conditions.

²⁷ Intersection is not impacted but improved due to other recommended improvements which affect the lane geometry of this intersection.



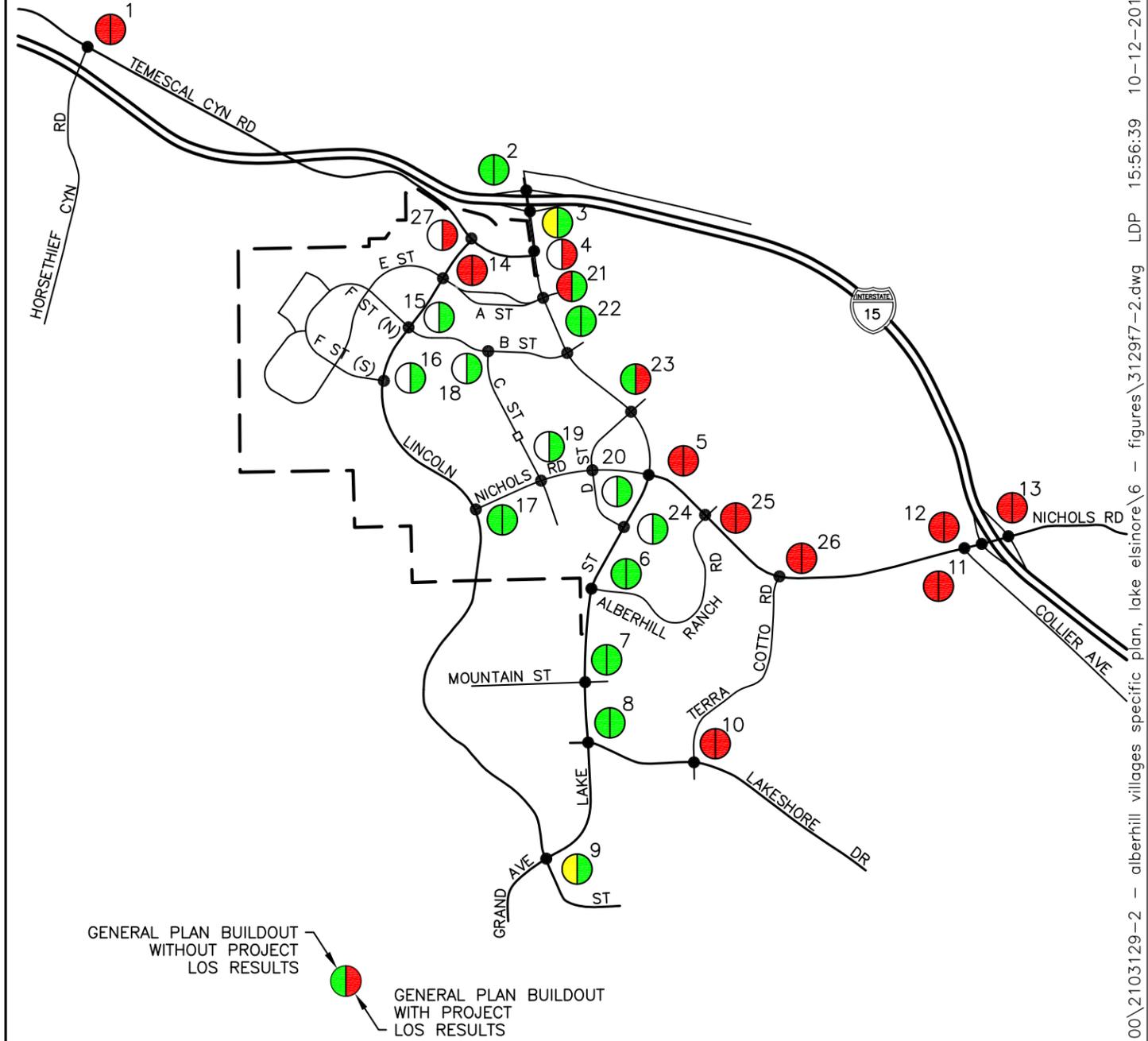
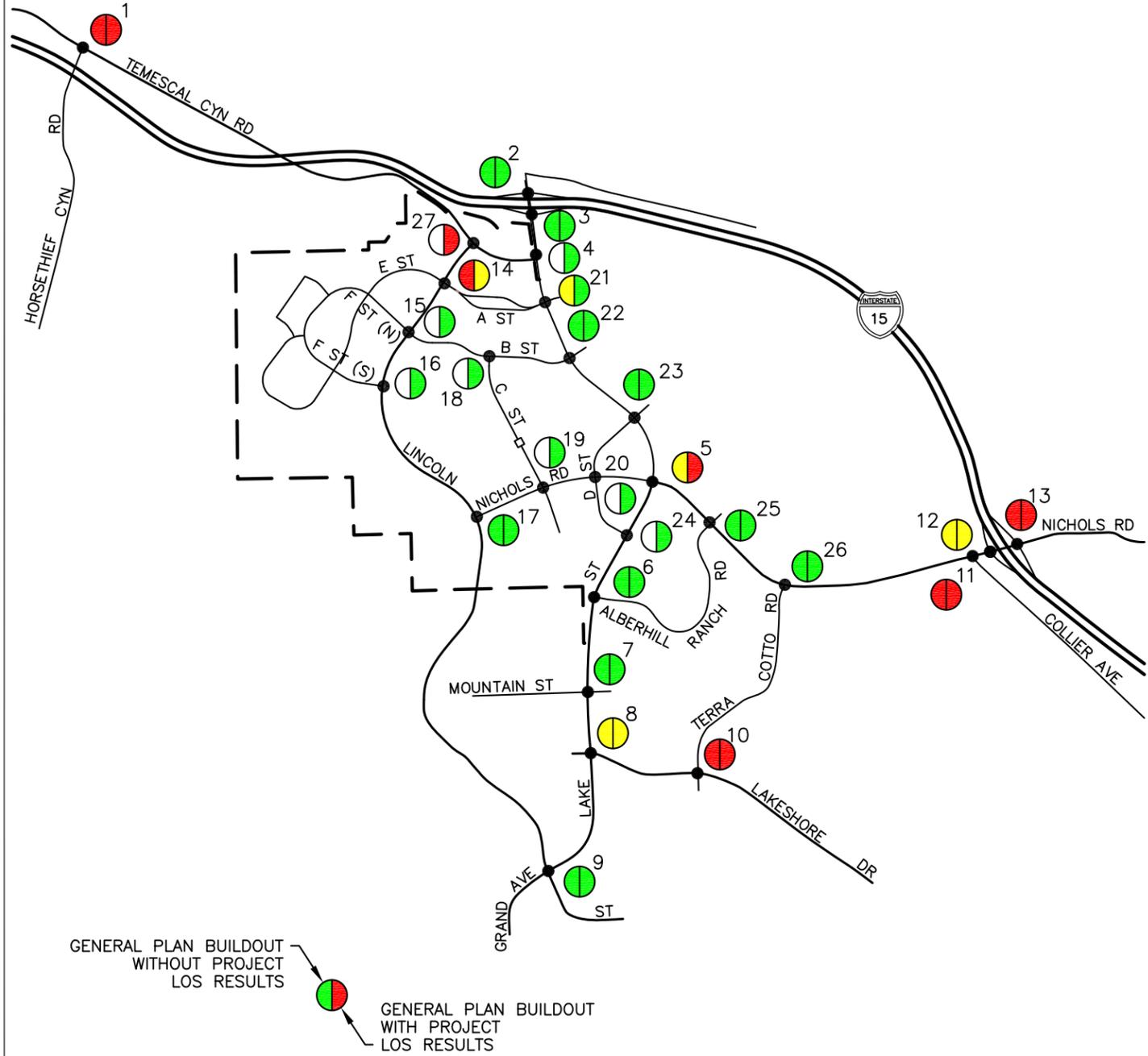
- KEY
- ① = STUDY INTERSECTION
 - = EXISTING APPROACH LANE ASSIGNMENT
 - (dashed) = GENERAL PLAN BUILDOUT WITHOUT PROJECT PLANNED IMPROVEMENTS
 - (solid) = GENERAL PLAN BUILDOUT WITH PROJECT PLANNED IMPROVEMENTS
 - = TRAFFIC SIGNAL, ○ = STOP SIGN
 - OL = OVERLAP PHASE
 - - - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 7-1

GENERAL PLAN BUILDOUT PLANNED IMPROVEMENTS
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

AM PEAK HOUR

PM PEAK HOUR



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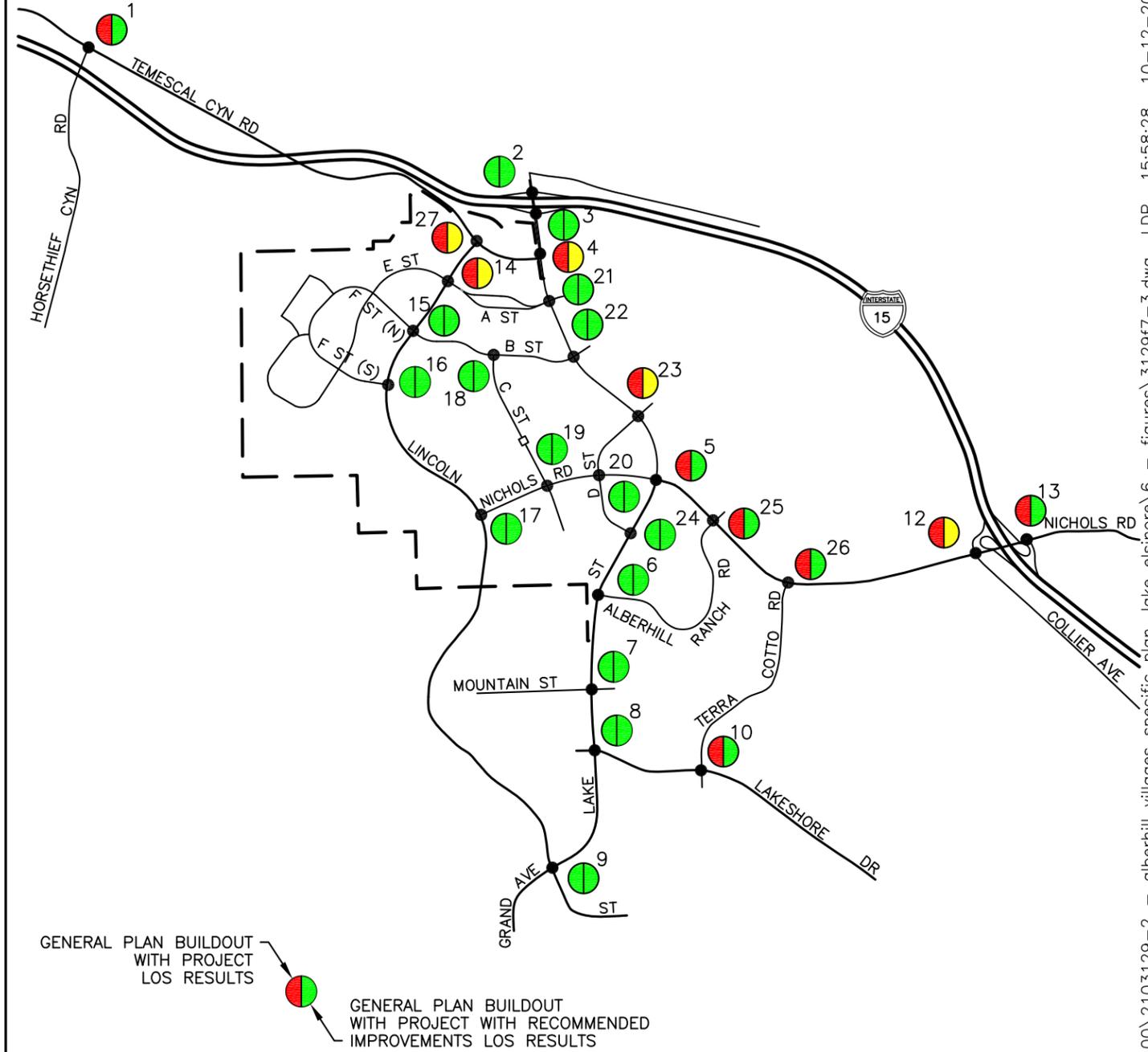
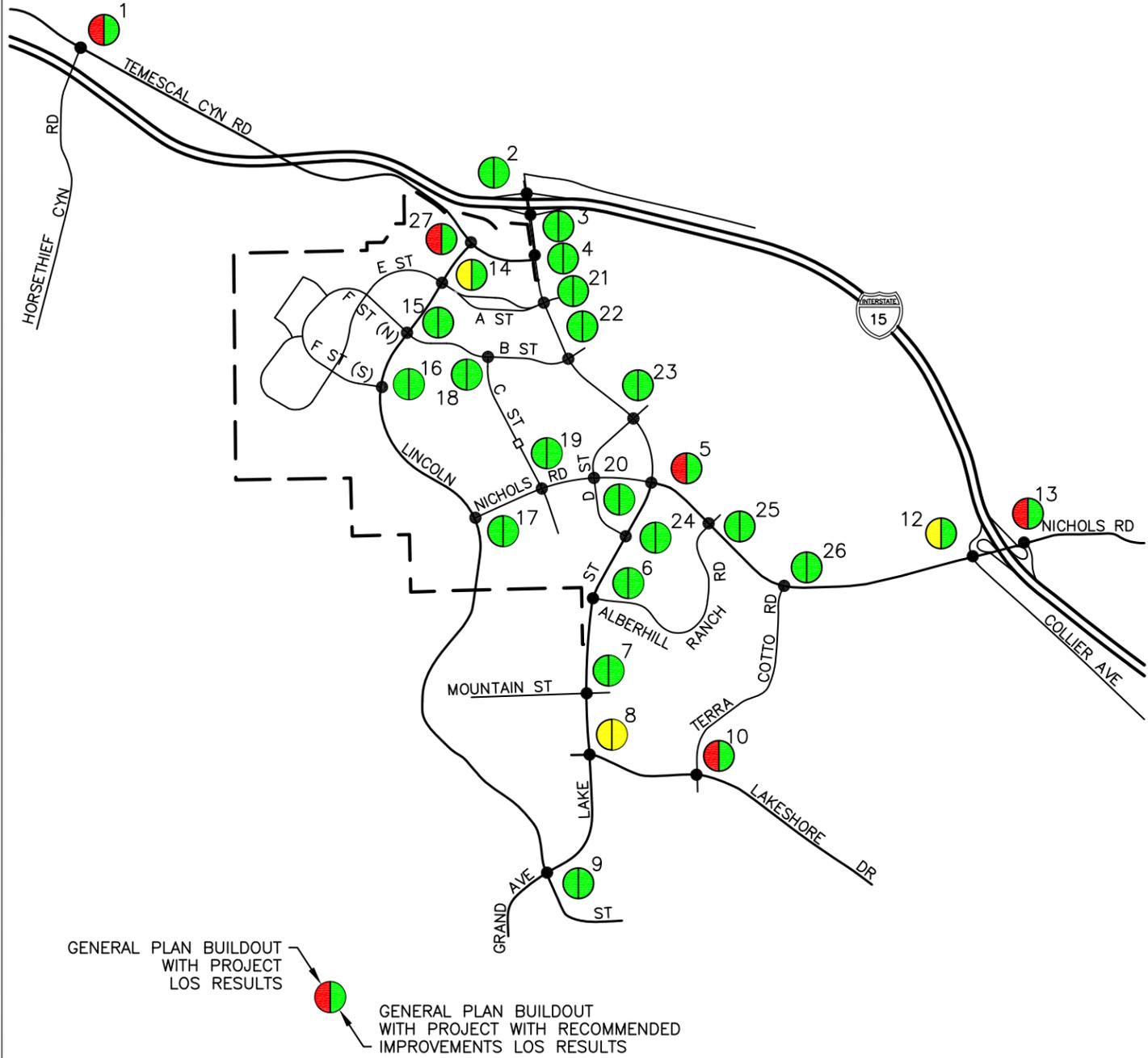


	= LOS E OR F		= STUDY INTERSECTION
	= LOS D		= ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY
	= LOS A, B OR C		= PROJECT SITE
	= DOES NOT EXIST		

FIGURE 7-2
 GENERAL PLAN BUILDOUT WITHOUT PROJECT VS
 GENERAL PLAN BUILDOUT WITH PROJECT
 PEAK HOURS LEVEL OF SERVICE RESULTS COMPARISON
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

AM PEAK HOUR

PM PEAK HOUR



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KEY	
■	= LOS E OR F
■	= LOS D
■	= LOS A, B OR C
	= DOES NOT EXIST
#	= STUDY INTERSECTION
	= ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY
	= PROJECT SITE

FIGURE 7-3
GENERAL PLAN BUILDOUT WITH PROJECT VS
GENERAL PLAN BUILDOUT WITH PROJECT WITH RECOMMENDED
IMPROVEMENTS PEAK HOURS LEVEL OF SERVICE RESULTS COMPARISON
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

7.2 General Plan Buildout Roadway Segment Capacity Analysis

Table 7-2 summarizes the Daily level of service results at the key study roadway segments during a “typical” weekday for the General Plan Buildout traffic conditions. The first section of **Table 7-2** presents a summary of existing Daily traffic conditions (which were also presented in **Table 3-2**). The middle section of **Table 7-2** presents the General Plan Buildout traffic conditions. The third section of **Table 7-2** presents the Recommended Circulation Improvements.

Going into further detail for **Table 7-2**, columns one (1), five (5) and ten (10) present type of roadway segment for the Existing, General Plan Buildout and Recommended Circulation Improvements traffic conditions, respectively. Columns two (2), three (3) and eleven (11) present the number of lanes for the Existing, General Plan Buildout and Recommended Circulation Improvements traffic conditions, respectively. Columns three (3) and seven (7) present Daily LOS “E” capacity values for the roadway segments as presented in the *Riverside County General Plan, Chapter 4: Circulation Element* for the Existing and General Plan Buildout traffic conditions, respectively. Columns four (4), eight (8) and nine (9) present the Daily traffic volume, the volume to capacity ratio (V/C) and the level of service (LOS) for the Existing, General Plan Buildout Without Project and General Plan Buildout With Project traffic conditions, respectively.

7.2.1 Existing Traffic Conditions

As previously presented in **Table 3-2** review of **Table 7-2** indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily</u>		
	<u>Daily Volume</u>	<u>V/C Ratio</u>	<u>LOS</u>
2. Lake Street <i>between</i> I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3. Lake Street <i>between</i> Temescal Canyon Road and Nichols Road	15,189	0.844	D
4. Lake Street <i>between</i> Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5. Lake Street <i>between</i> Alberhill Ranch Road and Mountain Street	18,880	1.049	F

However, even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours under existing conditions and therefore no improvements to these roadway segments are necessary.

7.2.2 General Plan Buildout Without Project Traffic Conditions

Review of Columns (8) **Table 7-2** indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, ten (10) of the twenty-three (23) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout Without Project Traffic Conditions. The remaining thirteen (13) study roadway segments operate at

acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily Volume</u>	<u>Daily V/C Ratio</u>	<u>LOS</u>
3. Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	49,000	0.909	E
9. Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10. Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11. Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12. Lake Street between A Street and B Street	47,000	0.872	D
13. Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15. Lincoln Street between Temescal Canyon Road and A St/E St	42,000	1.232	F
23. A Street between Lincoln Street and Lake Street	34,000	0.944	E
28. Nichols Road between C Street and D Street	34,000	1.133	F
29. Nichols Road between D Street and Lake Street	34,000	1.133	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

7.2.3 General Plan Amendment Buildout With Project Traffic Conditions

Review of Columns (9) *Table 7-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, eleven (11) of the thirty-two (32) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. The remaining twenty-one (21) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

<u>Key Roadway Segment</u>	<u>Daily Volume</u>	<u>Daily V/C Ratio</u>	<u>LOS</u>
1. Temescal Canyon Rd between Horsethief Canyon Road and I-15	44,000	0.816	D
3. Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	52,000	0.965	E
9. Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10. Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11. Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12. Lake Street between A Street and B Street	60,000	1.113	F
13. Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15. Lincoln Street between Temescal Canyon Road and A St/E St	33,000	0.968	E
20. E Street between F Street and Lincoln Street	23,000	1.278	F

26. C Street between B Street and Nichols Road	21,000	1.167	F
29. Nichols Road between D Street and Lake Street	30,000	1.000	E

It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements are consistent with the City of Lake Elsinore General Plan Update.

**TABLE 7-2
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY**

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
1. Temescal Canyon Rd <i>between</i> Horsethief Canyon Road and I-15 Freeway	Arterial	2U	18,000	5,691	0.316	A	Urban Arterial	6D	53,900	42,000	0.779	C	44,000	0.816	D	Urban Arterial	6D
2. Lake Street <i>between</i> I-15 Southbound Ramps and Temescal Canyon Rd/A St ²⁸	Arterial	2U	18,000	17,762	0.987	E	Augmented Urban Arterial	8D	71,000	47,000	0.662	B	48,000	0.676	B	Augmented Urban Arterial	8D
3. Lake Street <i>between</i> Temescal Cyn Rd/A St ²⁸ and Nichols Road	Arterial	2U	18,000	15,189	0.844	D	Urban Arterial	6D	53,900	49,000	0.909	E	52,000	0.965	E	Urban Arterial	6D
4. Lake Street <i>between</i> Nichols Road and Alberhill Ranch Road	Arterial	2U	18,000	19,788	1.099	F	Urban Arterial	6D	53,900	35,000	0.649	B	38,000	0.705	C	Urban Arterial	6D
5. Lake Street <i>between</i> Alberhill Ranch Road and Mountain Street	Arterial	2U	18,000	18,880	1.049	F	Urban Arterial	6D	53,900	41,000	0.761	C	42,000	0.779	C	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

²⁸ Temescal Canyon Road is re-aligned in the General Plan Buildout condition and does not intersect Lake Street.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
6. Lake Street <i>between</i> Mountain Street and Lakeshore Drive	Secondary	4D	25,900	17,359	0.670	B	Urban Arterial	6D	53,900	40,000	0.742	C	41,000	0.761	C	Urban Arterial	6D
7. Grand Avenue <i>between</i> Lakeshore Drive and Lincoln Street	Secondary	4D	25,900	14,757	0.570	A	Major	4D	34,100	19,000	0.557	A	21,000	0.616	B	Major	4D
8. Lakeshore Drive <i>between</i> Lake Street/Grand Ave and Terra Cotta Road	Secondary	4D	25,900	9,186	0.355	A	Urban Arterial	6D	53,900	26,000	0.482	A	26,000	0.482	A	Urban Arterial	6D
9. Nichols Road <i>between</i> Lake Street and Alberhill Ranch Road ²⁹	--	--	--	--	--	--	Urban Arterial	6D	53,900	47,000	0.872	D	47,000	0.872	D	Urban Arterial	6D
10. Nichols Road <i>between</i> Alberhill Ranch Road and Terra Cotta Road ²⁹	--	--	--	--	--	--	Urban Arterial	6D	53,900	53,000	0.983	E	53,000	0.983	E	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

²⁹ Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
11. Nichols Road <i>between</i> Terra Cotta Road and Collier Avenue	Arterial	2U	18,000	6,801	0.378	A	Urban Arterial	6D	53,900	58,000	1.076	F	58,000	1.076	F	Urban Arterial	6D
12. Lake Street <i>between</i> A Street and B Street ³⁰	--	--	--	--	--	--	Urban Arterial	6D	53,900	47,000	0.872	D	60,000	1.113	F	Urban Arterial	6D
13. Lake Street <i>between</i> D Street (North) and Nichols Road ³⁰	--	--	--	--	--	--	Urban Arterial	6D	53,900	51,000	0.946	E	51,000	0.946	E	Urban Arterial	6D
14. Lake Street <i>between</i> Nichols Road and D Street (South) ³⁰	--	--	--	--	--	--	Urban Arterial	6D	53,900	35,000	0.649	B	38,000	0.705	C	Urban Arterial	6D
15. Lincoln Street <i>between</i> Temescal Canyon Road and A Street/E Street ³⁰	--	--	--	--	--	--	Major	4D	34,100	42,000	1.232	F	33,000	0.968	E	Major	4D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

³⁰ Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
16. Lincoln Street <i>between</i> A Street/E Street and B Street/F Street (North) ³¹	--	--	--	--	--	--	Modified Major	4D	30,000	17,000	0.567	A	22,000	0.733	C	Modified Major	4D
17. Lincoln Street <i>between</i> B Street/F St (North) and F Street (South) ³¹	--	--	--	--	--	--	Modified Major	4D	30,000	13,000	0.433	A	9,000	0.300	A	Modified Major	4D
18. Lincoln Street <i>between</i> F Street (South) and Nichols Road ³¹	--	--	--	--	--	--	Modified Major	4D	30,000	16,000	0.533	A	11,000	0.367	A	Modified Major	4D
19. Lincoln Street <i>between</i> Nichols Road and Mountain Street ³¹	--	--	--	--	--	--	Secondary	4D	25,900	10,000	0.386	A	7,000	0.270	A	Secondary	4D
20. E Street <i>between</i> F Street and Lincoln Street ³²	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	23,000	1.278	F	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

³¹ Roadway Segment does not exist for Existing traffic conditions.

³² Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
21. F Street (North) <i>between</i> E Street and Lincoln Street ³³	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	6,000	0.333	A	Divided Collector	2D
22. F Street (South) <i>between</i> E Street and Lincoln Street ³³	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	3,000	0.167	A	Divided Collector	2D
23. A Street <i>between</i> Lincoln Street and Lake Street ³⁴	--	--	--	--	--	--	Towne Center Couplet	4D	36,000	34,000	0.944	E	5,000	0.139	A	Towne Center Couplet	4D
24. B Street <i>between</i> Lincoln Street and C Street ³³	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	13,000	0.722	C	Divided Collector	2D
25. B Street <i>between</i> C Street and Lake Street ³³	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	8,000	0.444	A	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

³³ Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

³⁴ Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
26. C Street <i>between</i> B Street and Nichols Road ³⁵	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	21,000	1.167	F	Divided Collector	2D
27. Nichols Road <i>between</i> Lincoln Street and C Street ³⁶	--	--	--	--	--	--	Modified Major	4D	30,000	13,000	0.433	A	8,000	0.267	A	Modified Major	4D
28. Nichols Road <i>between</i> C Street and D Street ³⁶	--	--	--	--	--	--	Modified Major	4D	30,000	34,000	1.133	F	10,000	0.333	A	Modified Major	4D
29. Nichols Road <i>between</i> D Street and Lake Street ³⁶	--	--	--	--	--	--	Modified Major	4D	30,000	34,000	1.133	F	30,000	1.000	E	Modified Major	4D
30. D Street (North) <i>between</i> Lake Street and Nichols Road ³⁵	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	9,000	0.500	A	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

³⁵ Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

³⁶ Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1) Type of Roadway Segment	(2) Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions			(5) Type of Roadway Segment	(6) Lanes	(7) LOS "E" Capacity (VPD)	(8) General Plan Buildout Without Project Traffic Conditions			(9) General Plan Buildout With Project Traffic Conditions			(10) Type of Roadway Segment	(11) Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
31. D Street (South) <i>between</i> Nichols Road and Lake Street ³⁷	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	3,000	0.167	A	Divided Collector	2D
32. Temescal Canyon Rd <i>between</i> Lincoln Street and Lake Street	--	--	--	--	--	--	Urban Arterial	6D	53,900	--	--	--	35,000	0.649	B	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

³⁷ Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

8.0 GENERAL PLAN BUILDOUT AREA-WIDE TRAFFIC IMPROVEMENTS

For those intersections and roadway segments where projected traffic volumes are expected to result in unacceptable operating conditions, this report recommends traffic improvements that change the intersection and/or roadway segments geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments and constructability of the planned and recommended improvements are feasible based on our review of existing conditions. The identified improvements are expected to:

- Address the impact of existing traffic, Project traffic and future non-project (cumulative ambient traffic growth and cumulative projects) traffic, and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

8.1 General Plan Amendment Buildout With Project Recommended Improvements

8.1.1 Intersections

The results of the General Plan Buildout With Project traffic conditions level of service analysis indicate that the proposed Project will significantly impact eleven (11) of the of the twenty-seven (27) key study intersections. The remaining sixteen (16) intersections are forecast to operate at acceptable LOS D or better under the General Plan Buildout With Project traffic conditions. It should be noted that two (2) intersections (Lake Street at A Street and Lake Street at D Street) are not impacted but have been improved due to other recommended improvements which affect the lane geometry of these intersections. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the General Plan Buildout With Project traffic:

- **Horsethief Canyon Road at Temescal Canyon Road:** Install a traffic signal and design for three-phase operation with protective left-turn phasing for westbound left-turn movements on Horsethief Canyon Road. Widen and re-stripe Horsethief Canyon Road to provide an exclusive northbound free right-turn lane. Widen and re-stripe Temescal Canyon Road to provide a 2nd and 3rd eastbound through lanes, 2nd westbound through lane and dual westbound left-turn lanes.
- **Lake Street at Temescal Canyon Road:** Widen and re-stripe Lake Street to provide a 2nd northbound left-turn lane, 3rd northbound through lane and a 3rd southbound through lane. Modify existing planned traffic signal.
- **Lake Street at Nichols Road:** Widen and re-stripe Lake Street to provide an exclusive northbound free right-turn lane. Install a westbound right-turn overlap phase on Nichols Road. Modify existing traffic signal.
- **Terra Cotta Road at Lakeshore Drive:** Install a traffic signal and design for eight-phase operation with protective left-turn phasing for all left-turn movements on Terra Cotta Road and Lakeshore Drive. Widen and re-stripe Terra Cotta Road to provide an

exclusive northbound left-turn lane and an exclusive southbound left-turn lane. Widen and re-stripe Lakeshore Drive to provide a 2nd eastbound through lane, a 2nd westbound through lane and an exclusive westbound right-turn lane.

- **I-15 Southbound Ramps/Collier Avenue at Nichols Road:** Widen and re-stripe I-15 Southbound Ramps to provide two (2) southbound left-turns, one (1) southbound through lane and one (1) southbound free right-turn lane. Widen and re-stripe Collier Avenue to provide one (1) northbound free right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, an exclusive eastbound right turn lane, dual westbound left-turn lanes, and a 2nd westbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.
- **I-15 Northbound Ramps at Nichols Road:** Widen and re-stripe I-15 Northbound Ramps to provide two (2) northbound left-turns and one (1) northbound right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, and a 2nd and 3rd westbound through lanes. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.
- **Lincoln Street at A Street/E Street:** Widen and re-stripe Lincoln Street to provide an exclusive southbound right-turn lane. Widen and re-stripe E Street to provide a 2nd eastbound left-turn lane. Modify General Plan Buildout planned traffic signal.
- **Lake Street at A Street:** Widen and re-stripe Lake Street to provide a 3rd northbound through lane, 3rd southbound through lane and an exclusive southbound right-turn lane. Widen and re-stripe A Street to provide a 2nd eastbound left-turn lane, an exclusive eastbound right-turn lane, and an exclusive westbound right-turn lane. Install a southbound right-turn overlap phase on Lake Street. Modify General Plan Buildout planned traffic signal and convert from five-phase operation to eight-phase operation. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.
- **Lake Street at B Street:** Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.
- **Lake Street at D Street (North):** Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal.

- **Alberhill Ranch Road at Nichols Road:** Widen and re-stripe Alberhill Ranch Road to provide a 2nd southbound left-turn lane. Widen and re-stripe Nichols Road to provide an exclusive westbound right-turn lane. Modify General Plan Buildout planned traffic signal.
- **Terra Cotta Road at Nichols Road:** Widen and re-stripe Nichols Road to a 3rd eastbound through lane, an exclusive eastbound right-turn lane, a 3rd westbound through lane and a 2nd westbound left-turn lane. Install a northbound right-turn overlap phase on Terra Cotta Road. Modify General Plan Buildout planned traffic signal.
- **Lincoln Street at Temescal Canyon Road:** Widen and re-stripe Lincoln Street to provide a 2nd northbound left turn-lane. Widen and re-stripe Temescal Canyon Road to provide an exclusive eastbound free right turn-lane and a 2nd westbound left-turn lane. Modify General Plan Buildout planned traffic signal.

Figure 8-1 presents the planned and recommended traffic improvements for the key study intersections for the General Plan Buildout With Project traffic conditions. The planned improvements consist of intersection and roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions as well as planned internal intersection improvements that the Project would construct as part of the Specific Plan development buildout.

8.1.2 Roadway Segments

The results of the roadway segment analyses summarized in *Table 7-2* indicate that with the addition of Project traffic, eleven (11) of the thirty-two (32) key study roadway segments are forecast to operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements listed in the last section of *Table 7-2* are consistent with the City of Lake Elsinore General Plan Update. Thus, based on this, no additional improvements are recommended for the roadway segments.

8.2 Alberhill Villages Specific Plan Circulation Plan

The following is a list of backbone roads that form the framework for the entire project. They include a new realigned Lake Street, a new realigned portion of Temescal Canyon Road, Lincoln Street, Nichols Road (extension), A Street, which bisects the campus and the UTC area, B Street, which runs south of the campus, C Street, which runs north-south in the Lakeside Village, D Street near the Alberhill Town Center, and E Street and F Street in the Parkview Village.

8.2.1 *Lake Street*

Lake Street, which will serve as the northern gateway to the City of Lake Elsinore, will be realigned and widened. Lake Street is a major thoroughfare off the I-15 Freeway and will serve as the main entrance into Alberhill Villages. In addition, a new widened bridge will extend over Temescal Creek along Lake Street.

Monumentation will be placed at key location(s) to identify one of the City's key entries at Lake Street. A major feature of this "gateway experience" will be a variable width median ranging up to 26 feet wide, and is complimented by a 100 foot by 250 foot open space corridor on the east side of Lake Street that stretches from the freeway to the intersection at Nichols Road that is a part of the Alberhill Ridge project. This is a multi-functional corridor, which provides wildlife linkage, meandering pedestrian and bicycle paths, utility easements, a perennial flowing creek, ponds, and a native re-vegetated landscape. A landscape setback has been set in place on the western edge of the street to ensure a visually appealing environment and complement the wildlife movement corridor on the east side of Lake Street. With the landscapes corridors and edges on both sides of Lake Street, combined with the landscaped roadway median, this Lake Street entry will form a broad canopy of native landscape that will be one of the central features of the AVSP. Lake Street's cross section will vary from 6 to 8 lanes, the 8 lanes occurring near the Temescal Canyon Road intersection and transitioning to 6 lanes as it approaches Nichols Road. Bike lanes will be provided on both sides of the street.

8.2.2 *Temescal Canyon Road*

Temescal Canyon Road will consist of 6 lanes and be realigned along with the Temescal Creek Bridge in order to link directly to Lake Street. Temescal Canyon Road will also connect to Lincoln Street, which will consist of 4 lanes as it moves south.

8.2.3 *Lincoln Street*

Lincoln Street consists of 4 lanes and will include bike lanes on both sides of the road, as well as an 8-foot minimum multi-purpose path along its western edge. As with all divided roads, Lincoln Street will incorporate a "depressed" or concave median with "broken" curbs in order to minimize runoff in the pavement area. The corridor will also provide: trail rest stops, off-site siltation collection, drainage, utility easement, enhanced wildlife connection, and a naturalized landscape.

8.2.4 *Nichols Road*

Nichols Road will be a 4 lane divided road with wide medians that links Lake Street and Lincoln Street. There are two distinct cross sections for Nichols Road. The section that bisects Alberhill Town Center, which employs unique left turn pockets and a wide median; and the section that extends westerly between Lakeside and Ridgeview Villages. Both sections will have bike lanes and non-adjacent sidewalks along each of their sides in order to provide a safe and enjoyable experience for the residents. This road will serve as one of the three main east-west links between Lake Street and Lincoln Street. Street A and B provide the other two links near the University and UTC Villages. These three roads, when combined with other streets and the pedestrian, bicycle paths,

provide the inter-locking modified grid that allows residents and visitors a variety of choices when moving around, though, and among the Alberhill Villages.

8.2.5 A Street

A Street is one of the main east-west connections located in the northern portion of the project. It plays a major role in providing a seamless connection between the UTC and University Villages. This road will have bike lanes and an “urban edge” consisting of a wide walk with tree wells along the street’s sides. This “urban edge” or main street design configuration is important in balancing automobile and pedestrian safety. Its unique configuration is based on small town central squares where residents and visitors socialized on a daily basis. There are three distinct cross sections that when combined form an environment both conducive to moving automobile traffic, as well as providing safe pedestrian and bicycle crossings. The three sections consist of a traditional divided 4 lane road, a “main street” section with buildings and parking on both sides, and the “town square” section that provides the social gathering space so important in establishing community pride.

8.2.6 B Street

B Street, a two lane divided road employing extra wide travel lanes, is another important east-west link in the northern portion of the project. When combined with the other east-west links, it provides alternative traffic routes through the project, as well as serving as the main entry to the University. This road will have bike lanes and non-adjacent sidewalk along its northern side and an “urban edge” consisting of a wide walk with tree wells along its southern side. The street’s wide median and extended curbs design also facilitates the pedestrian and bicycle movement across its section. This feature is important because the street separates the University Village from the Lakeside Park and the southern Villages.

8.2.7 C Street

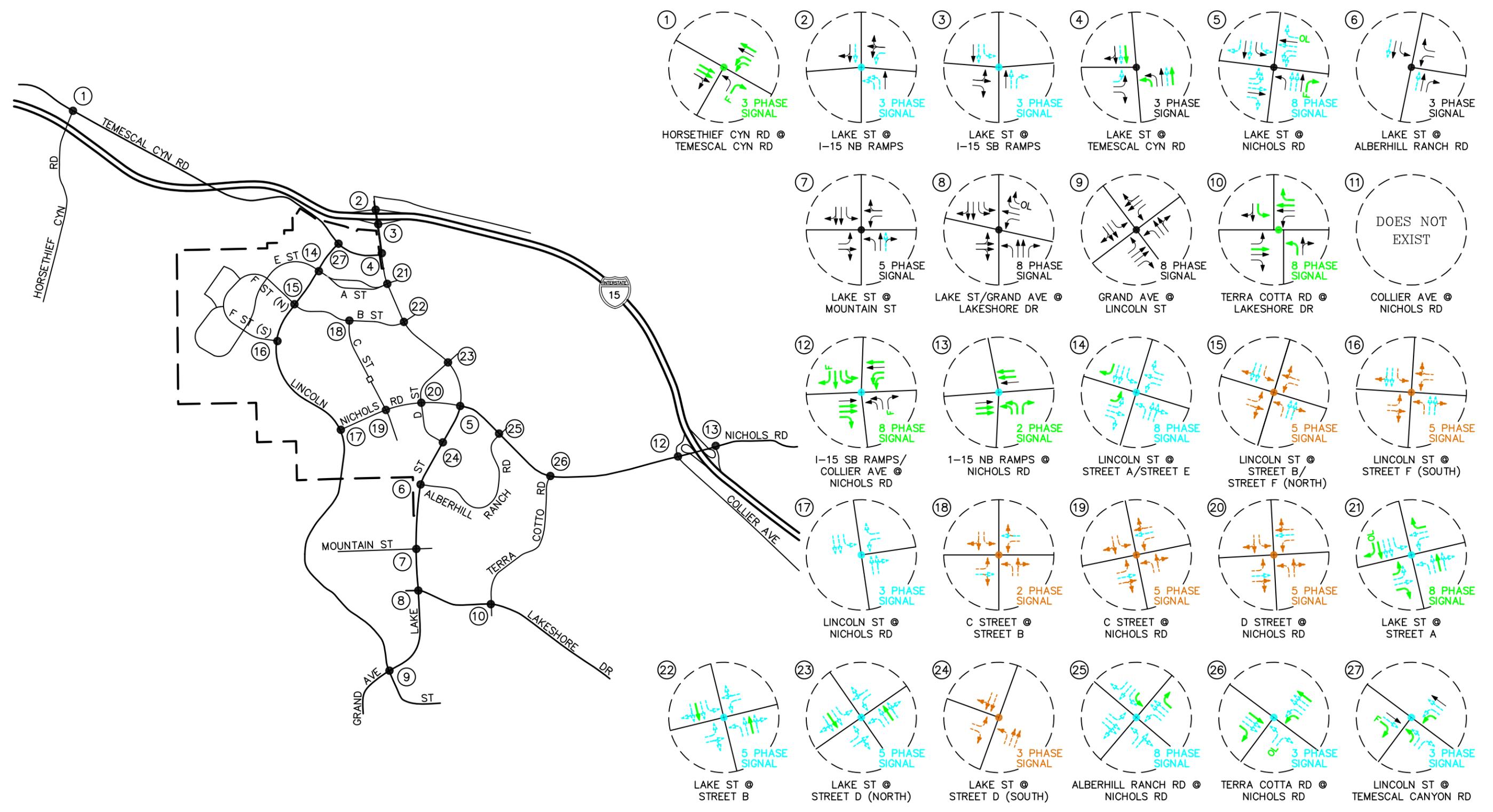
C Street, a two lane road with curb extensions, is the north-south connector for the Lakeside and Ridgeview Villages that will extend from Nichols Road to Street B. It will be composed of two different cross sections that are designed to both calm traffic and alert the driver to his or her surroundings. C1 Street is the northern portion of this road and will incorporate a median to bring attention to the Lakeside Park area. C2 Street, the southern portion, will travel through a residential neighborhood that will utilize alley-loaded homes whose entries will face the street. These features will assist in bringing “eyes on the street” and encourage social interaction to this main north-south auto, pedestrian, and bicycle route.

8.2.8 D Street

D Street forms the north and south western boundaries of the Alberhill Town Center. It is a two lane divided road with parking on both sides. Due to the anticipated traffic the travel and parking lanes are slightly wider than other two lane streets in the community. Where possible on this street, curb extensions will be employed to facilitate the safe street crossings due to the strong draw of the mixed-use Town Center.

8.2.9 *E Street and F Street*

E Street and F Street are very similar to D Street, but service primarily residential traffic. They are each two lane divided roads with parking on both sides. Where possible on this street, curb extensions will be employed to facilitate safe street crossings.



- KEY**
- # = STUDY INTERSECTION
 - ← = EXISTING APPROACH LANE ASSIGNMENT
 - (blue) = GENERAL PLAN BUILDOUT WITHOUT PROJECT PLANNED IMPROVEMENTS
 - (orange) = GENERAL PLAN BUILDOUT WITH PROJECT PLANNED IMPROVEMENTS
 - (green) = GENERAL PLAN BUILDOUT RECOMMENDED IMPROVEMENTS
 - = TRAFFIC SIGNAL, ○ = STOP SIGN
 - OL = OVERLAP PHASE
 - F = FREE RIGHT
 - = ALBERHILL VILLAGES SPECIFIC PLAN BOUNDARY

FIGURE 8-1

GENERAL PLAN BUILDOUT PLANNED AND RECOMMENDED IMPROVEMENTS
 ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

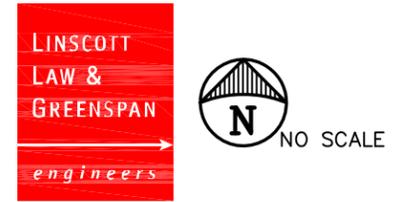
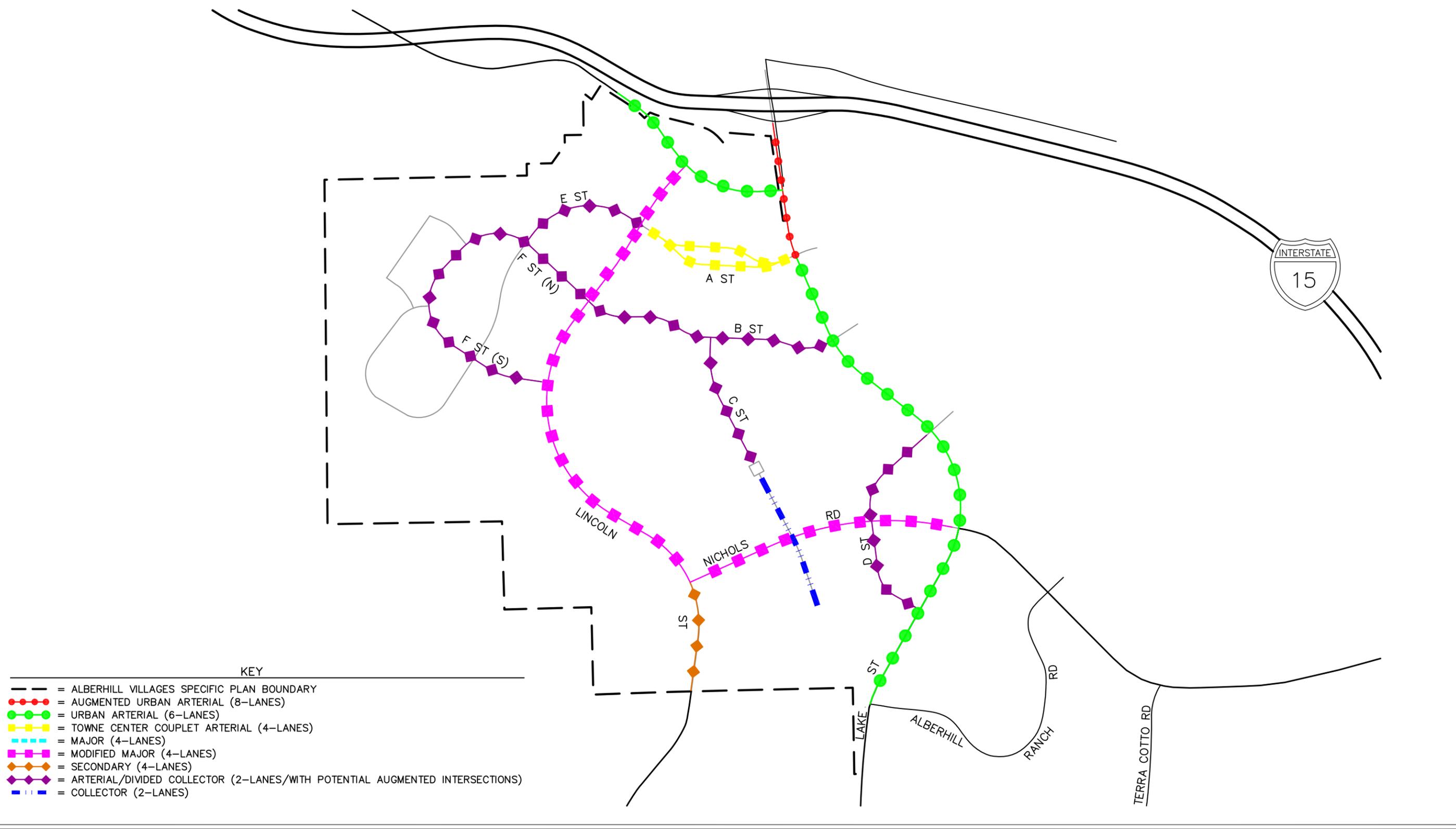


FIGURE 8-2

ALBERHILL VILLAGES SPECIFIC PLAN RECOMMENDED CIRCULATION PLAN
ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE