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REVISED TRAFFIC IMPACT ANALYSIS REPORT

EAST LAKE SPECIFIC PLAN AMENDMENT NO. 11

Lake Elsinore, California

March 22, 2017

(Revision of the February 1, 2017 Report)

Prepared for:

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EXECUTIVE SUMMARY

Project Description

- The proposed East Lake Specific Plan Amendment No. 11 (hereinafter referred to as Project). This Specific Plan Amendment is anticipated to replace the currently Adopted Specific Plan. The East Lake Specific Plan was originally prepared in 1993 and has since been subject to ten amendments as the land use designations within continued to evolve, the most recent of which has been adopted by the City of Lake Elsinore as previously mentioned. The City of Lake Elsinore is striving to promote "Dream Extreme" character to the Project by supporting uses including unique sporting and recreational venues as well as commercial, restaurant, hotel, open space, and residential uses. More specifically, the "Dream Extreme" character of the Project, as described by the City of Lake Elsinore, will consist of active sports-related facilities such as skydiving, hang-gliding, motor cross, and a golf course. East Lake Specific Plan consists of eight planning areas (PA-1, 2, 3, 4, 5, 6, 7, and 8) over nearly 3,000 acres. The Project is anticipated to be competed in two phases. Phase 1 is expected to be complete by the Year 2022 and buildout of the Specific Plan is expected to be complete by the Year 2040.

- The East Lake Specific Plan is generally located east of Lake Elsinore, south of Lakeshore Drive, west of Mission Trail/Corydon Road and North of Grand Avenue. The East Lake Specific Plan will consist of major mixed-use development including land uses such as residential, commercial, action sports, tourism, golf course/parks, preservation/mitigation areas, an airport and other uses.

Study Area

- Twenty-three (23) existing key study intersections and seven (7) future internal intersections were designated for evaluation based on discussions with City staff. The key intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows, along with their respective jurisdictions:

    1. Railroad Canyon Road at Summerhill Lane/Grape Street (Lake Elsinore)
    2. Railroad Canyon Road at I-15 NB Ramps (Lake Elsinore)
    3. Diamond Drive at I-15 SB Ramps (Lake Elsinore)
    4. Diamond Drive at Casino Drive/Auto Center Drive (Lake Elsinore)
    5. Lucerne Street at Lakeshore Drive (Lake Elsinore)
    6. Diamond Drive at Lakeshore Drive/Mission Trail (Lake Elsinore)
    7. Diamond Drive at Campbell Street (Lake Elsinore)

8. Mission Trail at Campbell Street (Lake Elsinore)
9. Diamond Drive at Malaga Road (Lake Elsinore)
10. Mission Trail at Malaga Road (Lake Elsinore/Wildomar)
11. Mission Trail at Olive Street (Lake Elsinore/Wildomar)
12. Mission Trail at Victorian Lane (Lake Elsinore/Wildomar)
13. Mission Trail at Lemon Street (Lake Elsinore/Wildomar)
14. Mission Trail at Corydon Road (Lake Elsinore/Wildomar)
15. Corydon Road at Cereal Street (Lake Elsinore/Wildomar)
16. Mission Trail at Bundy Canyon Road (Wildomar)
17. Orange Street at Bundy Canyon Road (Wildomar)
18. I-15 SB Ramps at Bundy Canyon Road (Wildomar)
19. I-15 NB Ramps at Bundy Canyon Road (Wildomar)
20. Corydon Road at Palomar Street (Lake Elsinore/Wildomar)
21. Mission Trail at Palomar Street (Wildomar)
22. Stoneman Street at Grand Avenue (Lake Elsinore)
23. Corydon Road at Grand Avenue (Lake Elsinore/Wildomar)
24. Grape Street at I-15 NB Ramps (Lake Elsinore) *[Future-Phase I]*
25. Diamond Drive at Olive Street (Lake Elsinore) *[Future-Phase I]*
26. "A" Street at Olive Street (Lake Elsinore) *[Future-Phase I]*
27. "A" Street at Victorian Lane (Lake Elsinore) *[Future-Phase I]*
28. "A" Street at Cereal Street (Lake Elsinore) *[Future-Phase I]*
29. Lucerne Street at Sylvester Street (Lake Elsinore) *[Future-Buildout]*
30. Stoneman Street at Cereal Street (Lake Elsinore) *[Future-Buildout]*

- The study roadway segments listed below, along with their respective jurisdictions, are locations that could potentially be impacted by the Project. The twenty-six (26) existing roadway segments and six (6) future roadway segments listed below were selected based on the arterial network within the study area and discussions with City of Lake Elsinore staff:

1. Grape Street, east of Railroad Canyon Road (Lake Elsinore)
2. Railroad Canyon Rd, between Summerhill Dr/Grape St and Lakeshore Dr/Mission Trail (Lake Elsinore)
3. Lucerne Street, south of Lakeshore Drive (Lake Elsinore)
4. Casino Drive, east of Diamond Drive (Lake Elsinore)

5. Diamond Drive, between Lakeshore Drive/Mission Trail and Campbell Street (Lake Elsinore)
6. Diamond Drive, between Campbell Street and Malaga Road (Lake Elsinore)
7. Mission Trail, between Diamond Drive and Campbell Street (Lake Elsinore)
8. Mission Trail, between Campbell Street and Malaga Road (Lake Elsinore)
9. Malaga Road, between Diamond Drive and Mission Trail (Lake Elsinore)
10. Malaga Road, east of Mission Trail (Lake Elsinore/Wildomar)
11. Diamond Drive, north of Summerly Place (Lake Elsinore)
12. Mission Trail, between Malaga Road and Olive Street (Lake Elsinore/Wildomar)
13. Olive Street, between Mission Trail and Grape Street (Wildomar)
14. Mission Trail, between Olive Street and Victorian Lane (Lake Elsinore/Wildomar)
15. Mission Trail, between Victorian Lane and Lemon Street (Lake Elsinore/Wildomar)
16. Lemon Street, between Mission Trail and Grape Street (Wildomar)
17. Corydon Road, between Mission Trail and Cereal Street (Lake Elsinore/Wildomar)
18. Cereal Street, west of Corydon Road (Lake Elsinore)
19. Mission Trail, between Corydon Road and Bundy Canyon Road (Wildomar)
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps (Wildomar)
21. Corydon Road, between Cereal Street and Palomar Street (Lake Elsinore/Wildomar)
22. Mission Trail, between Bundy Canyon Road and Palomar Street (Wildomar)
23. Palomar Street, between Corydon Road and Mission Trail (Wildomar)
24. Stoneman Street, north of Grand Avenue (Lake Elsinore)
25. Skylark Drive, north of Grand Avenue (Lake Elsinore)
26. Corydon Road, between Palomar Street and Grand Avenue (Lake Elsinore/Wildomar)
27. Sylvester Street, between Lucerne Street and Diamond Drive (Lake Elsinore) *[Future-Phase I]*
28. Lucerne Street, between Sylvester Street and Cereal Street (Lake Elsinore) *[Future-Phase I]*
29. Cereal Street, between Lucerne Street and Stoneman Street (Lake Elsinore) *[Future-Phase I]*
30. Cereal Street, between Stoneman Street and Diamond Drive (Lake Elsinore) *[Future-Phase I]*
31. Diamond Drive, between Olive Street and Cereal Street (Lake Elsinore) *[Future-Phase I]*

32. Bundy Canyon Road, between Corydon Road and Mission Trail (Lake Elsinore) *[Future-Phase I]*

Cumulative Projects Traffic

- The City of Lake Elsinore and the City of Wildomar identified eight (8) large cumulative projects within the Project study area that were included in the model runs prior to developing traffic volumes. Furthermore, due to its proximity to the East Lake Specific Plan and the large amount of volume it attracts during the Saturday peak hour, the Diamond Sports Center project was manually assigned to the Year 2022 traffic volumes and Year 2040 traffic volumes after these volumes were post-processed from the model runs.

Traffic Impact Analysis

Existing Traffic Conditions

- For the Existing traffic conditions, two (2) of the key study intersections (although intersection 24 does not exist in Existing traffic conditions) currently operate at unacceptable levels of service during the AM, PM, and/or Saturday Midday peak hour when compared to the LOS standards defined in this report. The remaining key study intersections currently operate at acceptable levels of service during the AM, PM, and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
17. Orange Street at Bundy Canyon Road	294.4	F	112.5	F	150.7	F
22. Stoneman Street at Grand Avenue	41.7	E	38.3	E	--	--

- For the Existing traffic conditions, one (1) of the key study roadway segments currently operates at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments currently operate at acceptable levels of service on daily basis. The roadway segment operating at an adverse level of service is:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
17. Corydon Road, *between* Mission Trail and Cereal Street	16,978	0.943	E	--	--	--

Existing With East Lake Specific Plan Project Buildout Traffic Conditions

- For the Existing With ELSP Project Buildout traffic conditions, six (6) key study intersections are forecast to operate at unacceptable levels of service during the AM PM, and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM, and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
5. Lucerne Street at Lakeshore Drive	374.0	F	373.4	F	725.3	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	--	--	--	--	105.4	F
12. Mission Trail at Victorian Lane	--	--	45.5	E	39.4	E
17. Orange Street at Bundy Canyon Road	279.9	F	130.6	F	116.4	F
18. I-15 Southbound Ramps at Bundy Canyon Road	55.3	E	--	--	--	--
22. Stoneman Street at Grand Avenue	66.2	F	56.9	F	--	--

Six (6) key study intersections will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, recommended improvements outlined in this report will offset the impact of the Existing With ELSP Project Buildout traffic and bring the significantly impacted intersections to below Existing and/or acceptable conditions at five (5) of the six (6) impacted locations. It should be noted that key study intersection #6, Diamond Drive at Lakeshore Drive/Mission Trail, was mitigated to a feasible extent but does not lower the level of service enough in order to bring below Existing and/or acceptable conditions.

- For the Existing With ELSP Project Buildout traffic conditions, two (2) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
17. Corydon Road, *between* Mission Trail and Cereal Street	19,795	1.100	F	19,227	1.068	F
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps	11,968	0.921	E	--	--	--

To determine if the ELSP Project Buildout creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A

during the AM, PM, and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Existing With ELSP Project Buildout traffic and therefore no improvements are required.

Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

- For the Year 2022 With ELSP Project Phase I traffic conditions, eleven (11) key study intersections are forecast to operate at unacceptable levels of service during the AM, PM, and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM, and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Railroad Canyon Road at Summerhill Lane/Grape Street	80.5	F	174.7	F	335.0	F
4. Diamond Drive at Casino Drive/Auto Center Drive	--	--	--	--	84.0	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	--	--	84.8	F	197.0	F
7. Diamond Drive at Campbell Street	--	--	--	--	626.1	F
8. Mission Trail at Campbell Street	--	--	--	--	76.5	F
9. Diamond Drive at Malaga Road	--	--	--	--	322.6	F
15. Corydon Road at Cereal Street	55.7	E	--	--	--	--
17. Orange Street at Bundy Canyon Road	288.1	F	168.8	F	331.3	F
18. I-15 Southbound Ramps at Bundy Canyon Road	65.8	E	--	--	77.7	E
22. Stoneman Street at Grand Avenue	442.0	F	664.7	F	--	--
24. Grape Street at I-15 Northbound Ramps	--	--	--	--	257.1	F

Eleven (11) key study intersections will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report. However, the implementation of recommended improvements outlined in this report will offset the impact of the ELSP Project Phase I traffic and bring the significantly impacted intersections to pre-Project and/or acceptable conditions at nine (9) of the eleven (11) impacted locations. It should be noted that key study intersections #1, Railroad Canyon Road at Summerhill Lane/Grape Street, and #6, Diamond Drive at Lakeshore Drive/Mission Trail, were mitigated to a feasible extent but do not lower the level of service enough to acceptable conditions. It should also be noted that the mitigation for key study intersection #4, Diamond Drive at Casino Drive/Auto Center Drive, is infeasible due to the surrounding parcels preventing the additional needed right-of-way.

- For the Year 2022 With ELSP Project Phase I traffic conditions, six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway

segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

Key Roadway Segment	Weekday Daily Volume	Weekday Daily V/C Ratio	Weekday Daily LOS	Saturday Daily Volume	Saturday Daily V/C Ratio	Saturday Daily LOS
1. Grape Street, *east of* Railroad Canyon Road	35,311	1.036	F	41,902	1.229	F
15. Mission Trail, *between* Victorian Lane and Lemon Street	23,456	0.906	E	--	--	--
17. Corydon Road, *between* Mission Trail and Cereal Street	17,177	0.954	E	--	--	--
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps	19,789	1.522	F	19,035	1.464	F
21. Corydon Road, *between* Cereal Street and Palomar Street	23,915	1.329	F	22,691	1.261	F
26. Corydon Road, *between* Palomar Street and Grand Avenue	17,681	0.982	E	16,582	0.921	E

To determine if the ELSP Project Phase I creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS D or better during the AM, PM, and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2022 With ELSP Project Phase I traffic and therefore no improvements are required.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

- For the Year 2040 With ELSP Project Buildout traffic conditions, eleven (11) key study intersections are forecast to operate at unacceptable levels of service during the AM, PM, and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM, and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

Key Intersection	AM Peak Hour Delay (s/v)	AM Peak Hour LOS	PM Peak Hour Delay (s/v)	PM Peak Hour LOS	Saturday Midday Peak Hour Delay (s/v)	Saturday Midday Peak Hour LOS
1. Railroad Canyon Road at Summerhill Lane/Grape Street	162.0	F	271.8	F	383.1	F
3. Diamond Drive at I-15 Southbound Ramps	--	--	--	--	87.2	F
4. Diamond Drive at Casino Drive/Auto Center Drive	124.8	F	209.0	F	213.5	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	237.7	F	308.6	F	440.0	F
7. Diamond Drive at Campbell Street	--	--	--	--	3,158.4	F
8. Mission Trail at Campbell Street	--	--	101.2	F	183.2	F
9. Diamond Drive at Malaga Road	--	--	--	--	194.2	F
18. I-15 Southbound Ramps at Bundy Canyon Road	70.7	E	--	--	72.9	E
21. Mission Trail at Palomar Street	76.6	E	108.1	F	--	--
22. Stoneman Street at Grand Avenue	56.7	E	--	--	--	--
24. Grape Street at I-15 Northbound Ramps	70.6	E	73.5	E	341.8	F

Eleven (11) key study intersections will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, the implementation of recommended improvements outlined in this report will offset the impact of the ELSP Project Buildout traffic and bring the significantly impacted intersections to below Adopted Specific Plan and/or acceptable conditions at ten (10) of the eleven (11) impacted locations. It should be noted that mitigation for key study intersection #4, Diamond Drive at Casino Drive/Auto Center Drive, is infeasible due to the surrounding parcels preventing the additional needed right-of-way.

- For the Year 2040 With ELSP Project Buildout traffic conditions, three (3) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Grape Street, *east of* Railroad Canyon Road	44,090	1.293	F	52,289	1.533	F
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	15,466	1.190	F	13,554	1.043	F
23. Palomar Street, *between* Corydon Road and Mission Trail	13,572	1.044	F	11,788	0.907	E

To determine if the ELSP Project Buildout creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS C or better during the AM, PM, and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With ELSP Project Buildout traffic and therefore no improvements are required.

Internal Network Planned Improvements

Project Phase I Planned Improvements

- The planned improvements for the internal network intersections listed below are anticipated to be completed in conjunction with the Project Phase I development and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions:

    - Intersection 25. Diamond Drive at Olive Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a shared left-right-turn lane.

- Intersection 26. "A" Street at Olive Street: This intersection is proposed to be a roundabout three-legged intersection with no north leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Olive Street are both proposed to be two lane collector roads.
- Intersection 27. "A" Street at Victorian Lane: This intersection is proposed to be a roundabout three-legged intersection with no west leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Victorian Lane are both proposed to be two lane collector roads.
- Intersection 28. "A" Street at Cereal Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no south leg. The southbound movement will consist of a shared left-right-turn lane. The eastbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a through lane and a shared through-right-turn lane.

➢ The planned improvements for the internal network roadway segments listed below are anticipated to be completed in conjunction with the Project Phase I development and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions:

- Roadway Segment 27. Sylvester Street, between Lucerne Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 28. Lucerne Street, between Sylvester Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 29. Cereal Street, between Lucerne Street and Stoneman Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 30. Cereal Street between Stoneman Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 31. Diamond Drive, between Olive Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.

Project Buildout Planned Improvements

➢ The planned improvements listed below for the internal network intersections are anticipated to be completed in conjunction with the Project Buildout development and have been assumed in the Existing With ELSP Project Buildout, Year 2040 With Adopted Specific Plan, and Year 2040 With ELSP Project Buildout traffic conditions:

- Intersection 25. Diamond Drive at Olive Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a shared left-right-turn lane.

- Intersection 26. "A" Street at Olive Street: This intersection is proposed to be a roundabout three-legged intersection with no north leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Olive Street are both proposed to be two lane collector roads.
- Intersection 27. "A" Street at Victorian Lane: This intersection is proposed to be a roundabout three-legged intersection with no west leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Victorian Lane are both proposed to be two lane collector roads.
- Intersection 28. "A" Street at Cereal Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no south leg. The southbound movement will consist of a shared left-right-turn lane. The eastbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a through lane and a shared through-right-turn lane.
- Intersection 29. Lucerne Street at Sylvester Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of an exclusive left-turn lane and an exclusive right-turn lane.
- Intersection 30. Stoneman Street at Cereal Street: This intersection is proposed to be a three phase signalized three-legged intersection with no north leg. The northbound movement will consist of an exclusive left-turn lane and an exclusive right-turn lane. The eastbound movement will consist of a through lane and a shared through-right-turn lane. The westbound movement will consist of an exclusive left-turn lane and two (2) through lanes.

➢ The planned improvements listed below for the internal network roadway segments are anticipated to be completed in conjunction with the Project Buildout development and have been assumed in the Existing With ELSP Project Buildout, Year 2040 With Adopted Specific Plan, and Year 2040 With ELSP Project Buildout traffic conditions:

- Roadway Segment 27. Sylvester Street, between Lucerne Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 28. Lucerne Street, between Sylvester Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 29. Cereal Street, between Lucerne Street and Stoneman Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 30. Cereal Street between Stoneman Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.

- Roadway Segment 31. Diamond Drive, between Olive Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.

External Network Planned Improvements

Existing With East Lake Specific Plan Project Buildout Planned Improvements

- The planned improvements for the external network intersections listed below are anticipated to be completed in conjunction with the Project Buildout and have been assumed in the Existing With ELSP Project Buildout traffic conditions:
  - Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Restripe the southbound approach to provide a shared through-right-turn lane. Modify the existing traffic signal to provide a five phase signal.

- There are no Existing With ELSP Project Buildout external network planned improvements for roadway segments.

Year 2022 Planned Improvements

- The planned improvements listed below for the external network intersections are anticipated to be completed in Year 2022 and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions:
  - Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Remove a northbound left-turn lane and the east leg crosswalk. Widen and/or restripe the westbound approach of Grape Street to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
  - Intersection 2. Railroad Canyon Road at I-15 NB Ramps: This intersection will not exist upon completion of the Railroad Canyon Road Interchange Project.
  - Intersection 3. Diamond Drive at I-15 SB Ramps: Widen and/or restripe the southbound approach to provide a second exclusive left-turn lane as well as a third exclusive through lane. Widen and/or restripe the southbound departure to include a third lane. Wide and/or restripe the eastbound departure to include two (2) additional on-ramp lanes. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
  - Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane.

- Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Restripe the southbound approach to provide a shared through-right-turn lane. Stripe crosswalks on the north and east legs. Modify the existing traffic signal to provide a five phase signal with protective left-turn phasing on Mission Trail.
- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 15. Corydon Road at Cereal Street: Add an east leg and provide the westbound approach with an exclusive left-turn lane, a through lane, a shared through-right-turn lane, and provide the eastbound departure with two (2) lanes. Widen and/or restripe the eastbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Restripe the northbound approach of Corydon Road to provide a shared through-right-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane. Stripe crosswalks on all four legs. Install an eight phase traffic signal.
- Intersection 16. Mission Trail at Bundy Canyon Road: Widen and/or restripe the eastbound approach of Bundy Canyon Road to provide an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the westbound approach to provide two (2) through lanes. Modify the existing traffic signal to provide an eight phase signal.
- Intersection 24. Grape Street at I-15 NB Ramps: Add a west leg and provide the eastbound approach with two (2) exclusive left-turn lanes, an exclusive right-turn lane, and provide the westbound departure with three (3) on-ramp lanes. Widen and/or restripe the northbound approach on Grape Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Install a three phase traffic signal.

➢ The planned improvements listed below for the external network roadway segments are anticipated to be completed in Year 2022 and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions:

- Roadway Segment 3. Lucerne Street, south of Lakeshore Drive: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.

- Roadway Segment 18. Cereal Street, west of Corydon Road: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 32. Bundy Canyon Road, between Corydon Road and Mission Trail: Extend Bundy Canyon Road from Mission Trail to Corydon Road with four (4) lanes divided.

Year 2040 Planned Improvements

➢ The planned improvements listed below for the external network intersections are anticipated to be completed in Year 2040 and have been assumed in the Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Remove a northbound left-turn lane and the east leg crosswalk. Widen and/or restripe the westbound approach of Grape Street to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 2. Railroad Canyon Road at I-15 NB Ramps: This intersection will not exist upon completion of the Railroad Canyon Road Interchange Project.
- Intersection 3. Diamond Drive at I-15 SB Ramps: Widen and/or restripe the southbound approach to provide a second exclusive left-turn lane as well as a third exclusive through lane. Widen and/or restripe the southbound departure to include a third lane. Wide and/or restripe the eastbound departure to include two (2) additional on-ramp lanes. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane. Widen and/or restripe the eastbound approach on Lakeshore Drive to provide two (2) exclusive through lanes. Widen and/or restripe the westbound departure to provide two (2) additional lanes. Widen and/or restripe the westbound approach to provide two (2) exclusive through lanes. Widen and/or restripe the eastbound departure to provide two (2) additional lanes. Stripe crosswalks on all legs. Install three phase traffic signal.
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Widen and/or restripe the eastbound approach on Lakeshore Drive to provide one (1) additional through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or restripe eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 8. Mission Trail at Campbell Street: Widen and/or restripe the northbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or

restripe the southbound approach to provide one (1) additional through lane. Widen and/or restripe the northbound departure to provide a third lane.

- Intersection 10. Mission Trail at Malaga Road: Widen and/or restripe the northbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide one (1) additional through lane. Widen and/or restripe the northbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane and a second through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide a shared through-right-turn lane and a second through lane. Widen and/or restripe the northbound departure with a third lane. Stripe crosswalks on the north and east legs. Modify the existing traffic signal to provide a five phase signal with protective left-turn phasing on Mission Trail.
- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane and a second through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane and a second through lane. Widen and/or restripe the northbound departure to provide a third lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 13. Mission Trail at Lemon Street: Widen and/or restripe the northbound approach of Mission Trail to provide a third through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide a third through lane. Widen and/or restripe the northbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 15. Corydon Road at Cereal Street: Add an east leg and provide the westbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane, and provide the eastbound departure with two (2) lanes. Widen and/or restripe the eastbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the northbound approach of Corydon Road to provide a through lane and a shared through-right-turn lane. Widen and/or restripe the southbound departure with a second lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a

through lane. Widen and/or restripe the northbound departure with a second lane. Stripe crosswalks on all four legs. Install an eight phase traffic signal.

- Intersection 16. Mission Trail at Bundy Canyon Road: Widen and/or restripe the eastbound approach of Bundy Canyon Road to provide an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the westbound approach to provide two (2) through lanes. Modify the existing traffic signal to provide an eight phase signal.
- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Please note that the addition of a third westbound departure lane would not result in a trap lane at the intersection of Orange Street at Bundy Canyon Road due to an additional westbound through lane included as a planned improvement at that location. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 19. I-15 NB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a third through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 20. Corydon Road at Palomar Street: Widen and/or restripe the northbound approach on Corydon Road to provide a second through lane. Widen and/or restripe the northbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 21. Mission Trail at Palomar Street: Stripe crosswalks on all legs. Install a three phase traffic signal.
- Intersection 22. Stoneman Street at Grand Avenue: Widen and/or restripe the eastbound approach on Grand Avenue to provide a through lane. Widen and/or

restripe the eastbound departure to provide a second lane. Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.

- Intersection 23. Corydon Road at Grand Avenue: Widen and/or restripe the eastbound approach on Grand Avenue to provide a through lane. Widen and/or restripe the westbound departure to provide a second lane. Widen and/or restripe the westbound approach to provide a through lane. Widen and/or restripe the eastbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 24. Grape Street at I-15 NB Ramps: Add a west leg and provide the eastbound approach with two (2) exclusive left-turn lanes, an exclusive right-turn lane, and provide the westbound departure with three (3) on-ramp lanes. Widen and/or restripe the northbound approach on Grape Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Install a three phase traffic signal.

➢ The planned improvements listed below for the external network roadway segments are anticipated to be completed in Year 2040 and have been assumed in the Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:

- Roadway Segment 3. Lucerne Street, south of Lakeshore Drive: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided. Extend south to Sylvester Street.
- Roadway Segment 7. Mission Trail, between Diamond Drive and Campbell Street: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 8. Mission Trail, between Campbell Street and Malaga Road: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 12. Mission Trail, between Malaga Road and Olive Street: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 13. Olive Street, between Mission Trail and Grape Street: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 14. Mission Trail, between Olive Street and Victorian Lane: Widen from a secondary arterial with four (4) lanes undivided to an urban arterial with six (6) lanes divided.
- Roadway Segment 15. Mission Trail, between Victorian Lane and Lemon Street: Widen from a secondary arterial with four (4) lanes undivided to an urban arterial with six (6) lanes divided.

- Roadway Segment 17. Corydon Road, between Mission Trail and Cereal Street: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.
- Roadway Segment 18. Cereal Street, west of Corydon Road: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps: Widen from a collector with two (2) lanes undivided to an urban arterial with six (6) lanes divided.
- Roadway Segment 21. Corydon Road, between Cereal Street and Palomar Street: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.
- Roadway Segment 24. Stoneman Street, north of Grand Avenue: Extend north to Cereal Street.
- Roadway Segment 26. Corydon Road, between Palomar Street and Grand Avenue: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.
- Roadway Segment 32. Bundy Canyon Road, between Corydon Road and Mission Trail: Extend Bundy Canyon Road from Mission Trail to Corydon Road with four (4) lanes divided.

Recommended Improvements

Existing With East Lake Specific Plan Project Buildout Traffic Conditions

➢ The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed Project Buildout will significantly impact six (6) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Existing With ELSP Project Buildout traffic:

- Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane. Stripe crosswalks on all legs. Install three phase traffic signal.
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.

- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 22. Stoneman Street at Grand Avenue: Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.

➢ The results of the roadway segment analyses for Existing With ELSP Project Buildout traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-one (31) key roadway segments (roadway segment 32 does not exist in Existing With ELSP Project Buildout traffic conditions). As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.

Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

➢ The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed Project Phase I will significantly impact eleven (11) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Year 2022 With ELSP Project Phase I traffic:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Widen and/or restripe the eastbound approach of Summerhill Road to provide a second through lane and convert the shared through-right lane into an exclusive through lane. Widen and/or restripe the southbound approach to provide a second left-turn lane. Widen and/or restripe the northbound departure to provide a third lane. Widen and/or restripe the northbound movement to provide a third through lane and to convert the northbound right-turn lane into a free right-turn movement. Modify the existing

traffic signal to be an eight phase signal and to provide overlap phasing for the westbound right-turn movement.

- Intersection 4. Diamond Drive at Auto Center Drive/Casino Drive: Widen the southbound approach of Diamond Drive to provide a second through lane. However, this mitigation is infeasible due to the surrounding parcels preventing the additional needed right-of-way. Hence the Project's impact at this key intersection is considered unavoidable.
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.
- Intersection 7. Diamond Drive at Campbell Street: Restrict southbound left-turn movement and westbound left-turn movement. Please note that the recommended improvement is for Saturday Midday peak hour only.
- Intersection 8. Mission Trail at Campbell Street: Stripe crosswalks on the east and west leg. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 9. Diamond Drive at Malaga Road: Restripe the southbound approach on Diamond Drive to provide a second exclusive left-turn lane. Widen and/or restripe the eastbound approach to provide a second exclusive left-turn lane. Modify the existing traffic signal as necessary.
- Intersection 15. Corydon Road at Cereal Street: Widen and/or restripe the northbound approach on Corydon Road to provide a through lane. Widen and/or restripe the northbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Widen and/or restripe the southbound departure to provide a second on-ramp lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane and an exclusive right-turn lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.

- Intersection 22. Stoneman Street at Grand Avenue: Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.
- Intersection 24. Grape Street at I-15 NB Ramps: Widen and/or restripe the southbound approach on Grape Street to convert the southbound right-turn lane into a free right-turn movement. Modify the existing traffic signal as necessary.

➢ The results of the roadway segment analyses for Year 2022 With ELSP Project Phase I traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments. As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

➢ The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed Project Buildout will significantly impact eleven (11) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Widen and/or restripe the eastbound approach of Summerhill Road to provide a second through lane and convert the shared through-right lane into an exclusive through lane. Widen and/or restripe the southbound approach to provide a second left-turn lane. Widen and/or restripe the northbound departure to provide a third lane. Widen and/or restripe the northbound movement to provide a third through lane and to convert the northbound right-turn lane into a free right-turn movement. Modify the existing traffic signal to be an eight phase signal and to provide overlap phasing for the westbound right-turn movement.
- Intersection 3. Railroad Canyon Road at I-15 SB Ramps: Widen and/or restripe the northbound approach on Railroad Canyon Road to provide an exclusive right-turn lane. Widen and/or restripe the eastbound approach on the off-ramp to provide a second exclusive right-turn lane. Modify the existing traffic signal as necessary.
- Intersection 4. Diamond Drive at Auto Center Drive/Casino Drive: Widen the northbound approach of Diamond Drive to provide a second exclusive left-turn lane. Widen the southbound approach to provide an exclusive right-turn lane and third through lane. Widen the eastbound approach to provide a second exclusive left-turn lane and right-turn lane. Install a pedestrian refuge on the south leg. Modify the existing traffic signal to provide eight phasing with overlap phases for the southbound and eastbound right-turn. However, this mitigation is infeasible due to the surrounding parcels preventing the additional needed right-of-way. Hence the Project's impact at this key intersection is considered unavoidable.

- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.
- Intersection 7. Diamond Drive at Campbell Street: Restrict southbound left-turn movement and westbound left-turn movement. Please note that the recommended improvement is for Saturday Midday peak hour only.
- Intersection 8. Mission Trail at Campbell Street: Stripe crosswalks on the east and west leg. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 9. Diamond Drive at Malaga Road: Restripe the southbound approach on Diamond Drive to provide a second exclusive left-turn lane. Widen and/or restripe the eastbound approach to provide a second exclusive left-turn lane. Modify the existing traffic signal as necessary. Please note that the second eastbound left-turn lane is only needed in the Year 2022 With ELSP Project Phase I traffic conditions.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide an exclusive right-turn lane. Widen and/or restripe the southbound departure to provide a second on-ramp lane. Modify the existing traffic signal as necessary.
- Intersection 21. Mission Trail at Palomar Street: Widen and/or restripe the northbound approach on Mission Trail to provide a second exclusive left-turn lane. Widen and/or restripe the westbound departure to provide a second lane. Modify the traffic signal to provide overlap phasing for the eastbound right-turn movement.
- Intersection 22. Stoneman Street at Grand Avenue: Widen and/or restripe the northbound approach on Stoneman Street to provide an exclusive left-turn lane. Modify the existing traffic signal as necessary.
- Intersection 24. Grape Street at I-15 NB Ramps: Widen and/or restripe the southbound approach on Grape Street to convert the southbound right-turn lane into a free right-turn movement. Modify the existing traffic signal as necessary.

➢ The results of the roadway segment analyses for Year 2040 With ELSP Project Buildout traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments. As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.

Traffic Signal Warrant Analysis

Existing With East Lake Specific Plan Project Buildout Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for the Existing With ELSP Project Buildout traffic conditions indicate that the following key unsignalized impacted intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM, Weekday PM and Saturday Midday peak hours:

    - 5. Lucerne Street at Lakeshore Drive

  The analysis and the recommended improvements show that the above-mentioned intersection in the Existing With ELSP Project Buildout traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours.

  The analysis and the recommended improvements show that intersections #12, Mission Trail at Victorian Lane, and #22, Stoneman Street at Grand Avenue, are recommended to be signalized. With signalization of these intersections, which is not warranted under any peak hours, these intersections are forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Although these intersections do not meet signal warrants, it is recommended these locations be signalized due to right-of-way restrictions and safety concerns.

Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for the Year 2022 With ELSP Project Phase I traffic conditions indicate that the following key unsignalized impacted intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM and Weekday PM peak hours:

    - 22. Stoneman Street at Grand Avenue

  The analysis and the recommended improvements show that the above-mentioned intersection in the Year 2022 With ELSP Project Phase I traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted under the Weekday AM and PM peak hours, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours.

  The analysis and the recommended improvements show that intersection #8, Mission Trail at Campbell Street, is recommended to be signalized. With signalization of this intersection, which is not warranted under any peak hours, these intersections are forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Although this intersection does not meet signal warrants, it is recommended this location be signalized due to safety concerns.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for the Year 2040 With ELSP Project Buildout traffic conditions indicate that the following key unsignalized impacted intersection has future traffic conditions that will not exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM, Weekday PM, or Saturday Midday peak hours:

    - 8. Mission Trail at Campbell Street

  The analysis and the recommended improvements show that the above-mentioned intersection in the Year 2040 With ELSP Project Buildout traffic conditions is recommended to be signalized. With signalization of this intersection, which is not warranted under any peak hours, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Although this intersection does not meet signal warrants, the signalization of this intersection is consistent with the analysis performed in the currently Adopted Specific Plan and it is reasonable to assume that by Year 2040, along with the adjoining planned roadway widening along Mission Trail from 4 lanes to 6 lanes, a traffic signal will be installed at this location.

Project Fair Share Analysis

Year 2022 With East Lake Specific Project Phase I Traffic Conditions

- The ELSP Project Phase I fair share percentages (worse time period impacted) for the eleven (11) impacted intersections for the Year 2022 With ELSP Project Phase I traffic conditions are shown below:

    - 1. Railroad Canyon Road at Summerhill Lane/Grape Street 100.00%[1]
    - 4. Diamond Drive at Casino Drive/Auto Center Drive 32.01%[2]
    - 6. Diamond Drive at Lakeshore Drive/Mission Trail 100.00%[1]
    - 7. Diamond Drive at Campbell Street 27.41%
    - 8. Mission Trail at Campbell Street 40.42%
    - 9. Diamond Drive at Malaga Road 46.02%
    - 15. Croydon Road at Cereal Street 61.60%
    - 17. Orange Street at Bundy Canyon Road 48.01%
    - 18. I-15 SB Ramps at Bundy Canyon Road 42.16%

[1] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[2] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

- 22. Stoneman Street at Grand Avenue 18.62%
- 24. Grape Street at I-15 Northbound Ramps 5.54%

➢ The results of the roadway segment analyses indicate that the proposed ELSP Project Phase I is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments for the Year 2022 With ELSP Project Phase I traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

➢ The ELSP Project Buildout fair share percentages (worse time period impacted) for the eleven (11) impacted intersections for the Year 2040 With ELSP Project Buildout traffic conditions are shown below:

- 1. Railroad Canyon Road at Summerhill Lane/Grape Street 100.00%[3]
- 3. Diamond Drive at I-15 Northbound Ramps 18.10%
- 4. Diamond Drive at Casino Drive/Auto Center Drive 21.54%[4]
- 6. Diamond Drive at Lakeshore Drive/Mission Trail 100.00%[3]
- 7. Diamond Drive at Campbell Street 4.79%
- 8. Mission Trail at Campbell Street 34.65%
- 9. Diamond Drive at Malaga Road 13.99%
- 18. I-15 SB Ramps at Bundy Canyon Road 17.87%
- 21. Mission Trail at Palomar Street 12.72%
- 22. Stoneman Street at Grand Avenue 6.41%
- 24. Grape Street at I-15 Northbound Ramps 10.00%

➢ The results of the roadway segment analyses indicate that the proposed ELSP Project Buildout is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments for the Year 2040 With ELSP Project Buildout traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Caltrans Facilities Analysis

Existing Traffic Conditions

➢ All six (6) basic freeway segments currently operate at acceptable LOS D or better during the AM and PM peak hours under the Existing traffic conditions based on the LOS standards defined in this report.

[3] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[4] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

- All four (4) freeway merge and diverge segments currently operate at acceptable levels of service LOS D or better under the Existing traffic conditions based on the LOS standards defined in this report.

Existing With East Lake Specific Plan Project Buildout Traffic Conditions

- All six (6) basic freeway segments are forecast to operate at acceptable levels of service during the AM and PM peak hours under the Existing With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. None of the six (6) basic freeway segments will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report.

Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

- One (1) basic freeway segment is forecast to operate at an adverse level of service under the Year 2022 With ELSP Project Phase I traffic conditions based on the LOS standards defined in this report. The remaining five (5) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2022 With ELSP Project Phase I traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour			PM Peak Hour		
	Key Basic Freeway Segment	Pk Hr Volume	Density (pc/mi/ln)	LOS	Pk Hr Volume	Density (pc/mi/ln)	LOS
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	6,120	38.3	E	--	--	--

One (1) of the six (6) basic freeway segments will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report. However, the implementation of recommended mitigation measures at the impacted basic freeway segments, mitigates the impacts of the proposed ELSP Project Phase I. After implementation of the recommended mitigation measures, the impacted basic freeway segment is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2022 With ELSP Project Phase I traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

- Four (4) basic freeway segments are forecast to operate at adverse levels of service under the Year 2040 With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. The remaining two (2) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2040 With ELSP Project Buildout traffic conditions. The locations operating at adverse levels of service are listed below:

		AM Peak Hour			PM Peak Hour		
	Key Basic Freeway Segment	**Pk Hr Volume**	**Density (pc/mi/ln)**	**LOS**	**Pk Hr Volume**	**Density (pc/mi/ln)**	**LOS**
1.	I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	--	--	--	7,232	55.9	F
2.	I-15 Northbound *from* Bundy Canyon Rd *to* Railroad Canyon Rd	--	--	--	6,594	44.5	E
5.	I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	6,746	46.8	F	--	--	--
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	7,528	63.2	F	--	--	--

Four (4) of the six (6) basic freeway segments will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, the implementation of recommended mitigation measures at the impacted basic freeway segments, mitigates the impacts of the proposed ELSP Project Buildout. After implementation of the recommended mitigation measures, the impacted basic freeway segments are forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

- One (1) freeway merge segment is forecast to operate at an adverse level of service under the Year 2040 With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. The remaining three (3) freeway merge and diverge segments are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours under the Year 2040 With ELSP Project Buildout traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour				PM Peak Hour			
	Key Basic Freeway Segment	**Freeway Pk Hr Volume**	**Ramp Pk Hr Volume**	**Density (pc/mi/ln)**	**LOS**	**Freeway Pk Hr Volume**	**Ramp Pk Hr Volume**	**Density (pc/mi/ln)**	**LOS**
1.	I-15 Southbound On-Ramp *from* Railroad Canyon Road	5,512	1,234	34.0	F	--	--	--	--

One (1) of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, the implementation of recommended mitigation

measures at the impacted freeway merge segment, mitigates the impacts of the proposed East Lake Specific Plan (Buildout). After implementation of the recommended mitigation measures, the impacted freeway merge segment is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Railroad Canyon Road Interchange Project Planned Improvements (Caltrans Facilities)

Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout Traffic Conditions

- The planned improvements listed below for the basic freeway segments are anticipated to be completed in conjunction with the I-15 and Railroad Canyon Road Interchange Project and have been assumed in the Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:
  - 3. I-15 Northbound *from* Railroad Canyon Road *to* Franklin Street: Add one (1) auxiliary lane connecting the Railroad Canyon Road On-Ramp to the Franklin Street Off-Ramp.
  - 4. I-15 Southbound *from* Franklin Street *to* Railroad Canyon Road: Add one (1) auxiliary lane connecting the Franklin Street On-Ramp to the Railroad Canyon Road Off-Ramp.
- The planned improvements listed below for the freeway merge and diverge segments are anticipated to be completed in conjunction with the I-15 and Railroad Canyon Road Interchange Project and have been assumed in the Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:
  - 1. I-15 Northbound Off-Ramp *to* Grape Street: Replace the existing off-ramp onto Railroad Canyon Road with a one-lane hook ramp onto Grape Street. Extend the deceleration lane to approximately 1,530 feet.
  - 2. I-15 Northbound On-Ramp *from* Grape Street: Replace the existing on-ramp from Railroad Canyon Road with a one-lane hook ramp from Grape Street. The acceleration lane will tie in with the future auxiliary lane connecting to the Franklin Street off-ramp, approximately 2,400 feet downstream.
  - 3. I-15 Southbound Off-Ramp *to* Railroad Canyon Road: Add a second off-ramp lane with an approximately 170 foot long deceleration lane. Configure the existing off-ramp lane to the proposed auxiliary lane connecting to the Franklin Street on-ramp approximately 1,950 feet upstream.
  - 4. I-15 Southbound On-Ramp *from* Railroad Canyon Road: Extend the acceleration lane to approximately 1,500 feet.

Recommended Improvements (Caltrans Facilities)

Existing With East Lake Specific Plan Project Buildout Traffic Conditions

- The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed ELSP Project Buildout will not have a significant impact at any of the six (6) basic freeway segments. All six (6) basic freeway segments are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions.

- The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed ELSP Project Buildout will not have a significant impact at any of the four (4) freeway merge and diverge segments. All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions.

Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

- The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed ELSP Project Phase I will significantly impact one (1) of the of six (6) basic freeway segments. The remaining five (5) basic freeway segments are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2022. The improvements listed below have been identified to address the traffic impacts at the basic freeway segments significantly impacted by the Year 2022 With ELSP Project Phase I traffic:

    - 6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road: Add one (1) general purpose lane in the southbound direction.

- The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed ELSP Project Phase I will not have a significant impact at any of the four (4) freeway merge and diverge segments. All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2022.

Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

- The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed ELSP Project Buildout will significantly impact four (4) of the of six (6) basic freeway segments. The remaining two (2) basic freeway segments are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. It should be noted that the planned improvements from the

Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2040. The improvements listed below have been identified to address the traffic impacts at the basic freeway segments significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- 1. I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road: Add one (1) general purpose lane in the northbound direction.
- 2. I-15 Northbound *from* Bundy Canyon Road *to* Railroad Canyon Road: Add one (1) general purpose lane in the northbound direction.
- 5. I-15 Southbound *from* Railroad Canyon Road *to* Bundy Canyon Road: Add one (1) general purpose lane in the southbound direction.
- 6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road: Add one (1) general purpose lane in the southbound direction.

➢ The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed ELSP Project Buildout will significantly impact one (1) of the of four (4) freeway merge and diverge segments. The remaining three (3) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2040. The improvements listed below have been identified to address the traffic impacts at the freeway merge segment significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- 4. I-15 Southbound On-Ramp *from* Railroad Canyon Road: The addition of the fourth southbound general purpose lane previously mentioned to mitigate basic freeway segment No. 5 (I-15 Southbound *from* Railroad Canyon Road *to* Bundy Canyon Road) under Year 2040 With ELSP Project Buildout traffic conditions will sufficiently offset the adverse level of service for this merge segment. No additional mitigation is needed.

REVISED TRAFFIC IMPACT ANALYSIS REPORT

EAST LAKE SPECIFIC PLAN AMENDMENT NO. 11

Lake Elsinore, California

March 22, 2017

(Revision of the February 1, 2017 Report)

1.0 INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic impacts and circulation needs associated with the proposed East Lake Specific Plan Amendment No. 11 (hereinafter referred to as Project). This Specific Plan Amendment is anticipated to replace the currently Adopted Specific Plan. The East Lake Specific Plan was originally prepared in 1993 and has since been subject to ten amendments as the land use designations within continued to evolve, the most recent of which has been adopted by the City of Lake Elsinore as previously mentioned. The City of Lake Elsinore is striving to promote "Dream Extreme" character to the Project by supporting uses including unique sporting and recreational venues as well as commercial, restaurant, hotel, open space, and residential uses. More specifically, the "Dream Extreme" character of the Project, as described by the City of Lake Elsinore, will consist of active sports-related facilities such as skydiving, hang-gliding, motor cross, and a golf course. East Lake Specific Plan consists of eight planning areas (PA-1, 2, 3, 4, 5, 6, 7, and 8) over nearly 3,000 acres. The Project is anticipated to be competed in two phases. Phase 1 is expected to be complete by the Year 2022 and buildout of the Specific Plan is expected to be complete by the Year 2040.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential traffic impacts that the Project may have on the local and/or regional transportation network in the vicinity of the Project site. The traffic impact analysis evaluates the operating conditions at twenty-three (23) existing and seven (7) future key study intersections, as well as twenty-six (26) existing and six (6) future key roadway segments within the Project vicinity, models the trip generation potential of the Project and forecasts existing and future (near-term Year 2022 and long-term Year 2040) operating conditions without and with the Project.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing (i.e. baseline) peak hours and daily traffic information has been collected at key existing study intersections and key existing roadway segments, respectively, on a "typical" weekday for use in the preparation of intersection and roadway segment level of service calculations. This traffic report analyzes existing (i.e. baseline) and future (near-term and long-term) weekday Daily, AM and PM peak hour traffic conditions as well as Saturday Daily and Midday peak hour traffic conditions for Existing (i.e. baseline), Year 2022, and Year 2040 traffic conditions without and with the proposed Project. Weekday AM/PM and Saturday Midday peak hour and Weekday/Saturday daily traffic forecasts for the Buildout (Year 2040) traffic conditions have been

projected based on the City of Lake Elsinore Transportation and Analysis Model, administered by LSA Associates, Inc. (LSA).

The work program for this traffic study was developed in conjunction with the City of Lake Elsinore Planning Department staff. ***Appendix A*** contains a copy of the approved City of Lake Elsinore Traffic Impact Study Scoping Agreement.

1.1 Study Area

1.1.1 *Intersections*

Twenty-three (23) existing key study intersections and seven (7) future internal intersections were designated for evaluation based on discussions with City staff. The key intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows, along with their respective jurisdictions:

1. Railroad Canyon Road at Summerhill Lane/Grape Street (Lake Elsinore)
2. Railroad Canyon Road at I-15 NB Ramps (Lake Elsinore)
3. Diamond Drive at I-15 SB Ramps (Lake Elsinore)
4. Diamond Drive at Casino Drive/Auto Center Drive (Lake Elsinore)
5. Lucerne Street at Lakeshore Drive (Lake Elsinore)
6. Diamond Drive at Lakeshore Drive/Mission Trail (Lake Elsinore)
7. Diamond Drive at Campbell Street (Lake Elsinore)
8. Mission Trail at Campbell Street (Lake Elsinore)
9. Diamond Drive at Malaga Road (Lake Elsinore)
10. Mission Trail at Malaga Road (Lake Elsinore/Wildomar)
11. Mission Trail at Olive Street (Lake Elsinore/Wildomar)
12. Mission Trail at Victorian Lane (Lake Elsinore/Wildomar)
13. Mission Trail at Lemon Street (Lake Elsinore/Wildomar)
14. Mission Trail at Corydon Road (Lake Elsinore/Wildomar)
15. Corydon Road at Cereal Street (Lake Elsinore/Wildomar)
16. Mission Trail at Bundy Canyon Road (Wildomar)
17. Orange Street at Bundy Canyon Road (Wildomar)
18. I-15 SB Ramps at Bundy Canyon Road (Wildomar)
19. I-15 NB Ramps at Bundy Canyon Road (Wildomar)
20. Corydon Road at Palomar Street (Lake Elsinore/Wildomar)
21. Mission Trail at Palomar Street (Wildomar)
22. Stoneman Street at Grand Avenue (Lake Elsinore)

23. Corydon Road at Grand Avenue (Lake Elsinore/Wildomar)
24. Grape Street at I-15 NB Ramps (Lake Elsinore) *[Future-Phase I]*
25. Diamond Drive at Olive Street (Lake Elsinore) *[Future-Phase I]*
26. "A" Street at Olive Street (Lake Elsinore) *[Future-Phase I]*
27. "A" Street at Victorian Lane (Lake Elsinore) *[Future-Phase I]*
28. "A" Street at Cereal Street (Lake Elsinore) *[Future-Phase I]*
29. Lucerne Street at Sylvester Street (Lake Elsinore) *[Future-Buildout]*
30. Stoneman Street at Cereal Street (Lake Elsinore) *[Future-Buildout]*

1.1.2 *Roadway Segments*

The study roadway segments listed below, along with their respective jurisdictions, are locations that could potentially be impacted by the Project. The twenty-six (26) existing roadway segments and six (6) future internal roadway segments listed below were selected based on the arterial network within the study area and discussions with City of Lake Elsinore staff:

1. Grape Street, east of Railroad Canyon Road (Lake Elsinore)
2. Railroad Canyon Rd, between Summerhill Dr/Grape St and Lakeshore Dr/Mission Trail (Lake Elsinore)
3. Lucerne Street, south of Lakeshore Drive (Lake Elsinore)
4. Casino Drive, east of Diamond Drive (Lake Elsinore)
5. Diamond Drive, between Lakeshore Drive/Mission Trail and Campbell Street (Lake Elsinore)
6. Diamond Drive, between Campbell Street and Malaga Road (Lake Elsinore)
7. Mission Trail, between Diamond Drive and Campbell Street (Lake Elsinore)
8. Mission Trail, between Campbell Street and Malaga Road (Lake Elsinore)
9. Malaga Road, between Diamond Drive and Mission Trail (Lake Elsinore)
10. Malaga Road, east of Mission Trail (Lake Elsinore/Wildomar)
11. Diamond Drive, north of Summerly Place (Lake Elsinore)
12. Mission Trail, between Malaga Road and Olive Street (Lake Elsinore/Wildomar)
13. Olive Street, between Mission Trail and Grape Street (Wildomar)
14. Mission Trail, between Olive Street and Victorian Lane (Lake Elsinore/Wildomar)
15. Mission Trail, between Victorian Lane and Lemon Street (Lake Elsinore/Wildomar)
16. Lemon Street, between Mission Trail and Grape Street (Wildomar)
17. Corydon Road, between Mission Trail and Cereal Street (Lake Elsinore/Wildomar)
18. Cereal Street, west of Corydon Road (Lake Elsinore)

19. Mission Trail, between Corydon Road and Bundy Canyon Road (Wildomar)
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps (Wildomar)
21. Corydon Road, between Cereal Street and Palomar Street (Lake Elsinore/Wildomar)
22. Mission Trail, between Bundy Canyon Road and Palomar Street (Wildomar)
23. Palomar Street, between Corydon Road and Mission Trail (Wildomar)
24. Stoneman Street, north of Grand Avenue (Lake Elsinore)
25. Skylark Drive, north of Grand Avenue (Lake Elsinore)
26. Corydon Road, between Palomar Street and Grand Avenue (Lake Elsinore/Wildomar)
27. Sylvester Street, between Lucerne Street and Diamond Drive (Lake Elsinore) *[Future-Phase I]*
28. Lucerne Street, between Sylvester Street and Cereal Street (Lake Elsinore) *[Future-Phase I]*
29. Cereal Street, between Lucerne Street and Stoneman Street (Lake Elsinore) *[Future-Phase I]*
30. Cereal Street, between Stoneman Street and Diamond Drive (Lake Elsinore) *[Future-Phase I]*
31. Diamond Drive, between Olive Street and Cereal Street (Lake Elsinore) *[Future-Phase I]*
32. Bundy Canyon Road, between Corydon Road and Mission Trail (Lake Elsinore) *[Future-Phase I]*

1.2 Traffic Impact Analysis Components

The Highway Capacity Manual 2010 (HCM 2010) Delay, Volume to Capacity (V/C) ratio and corresponding Level of Service (LOS) calculations at the key study locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the Project. When necessary, this report recommends intersection/roadway segment improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or addresses the impact of the Project.

Included in this Traffic Impact Analysis are:

- Existing Traffic Counts,
- Modeled Project trip generation/distribution/assignment,
- Modeled Cumulative Projects trip generation/distribution/assignment,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday Midday peak hour LOS analyses for Existing (i.e. Baseline) Conditions,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday Midday peak hour LOS analyses for Existing (i.e. Baseline) Conditions with Project traffic,

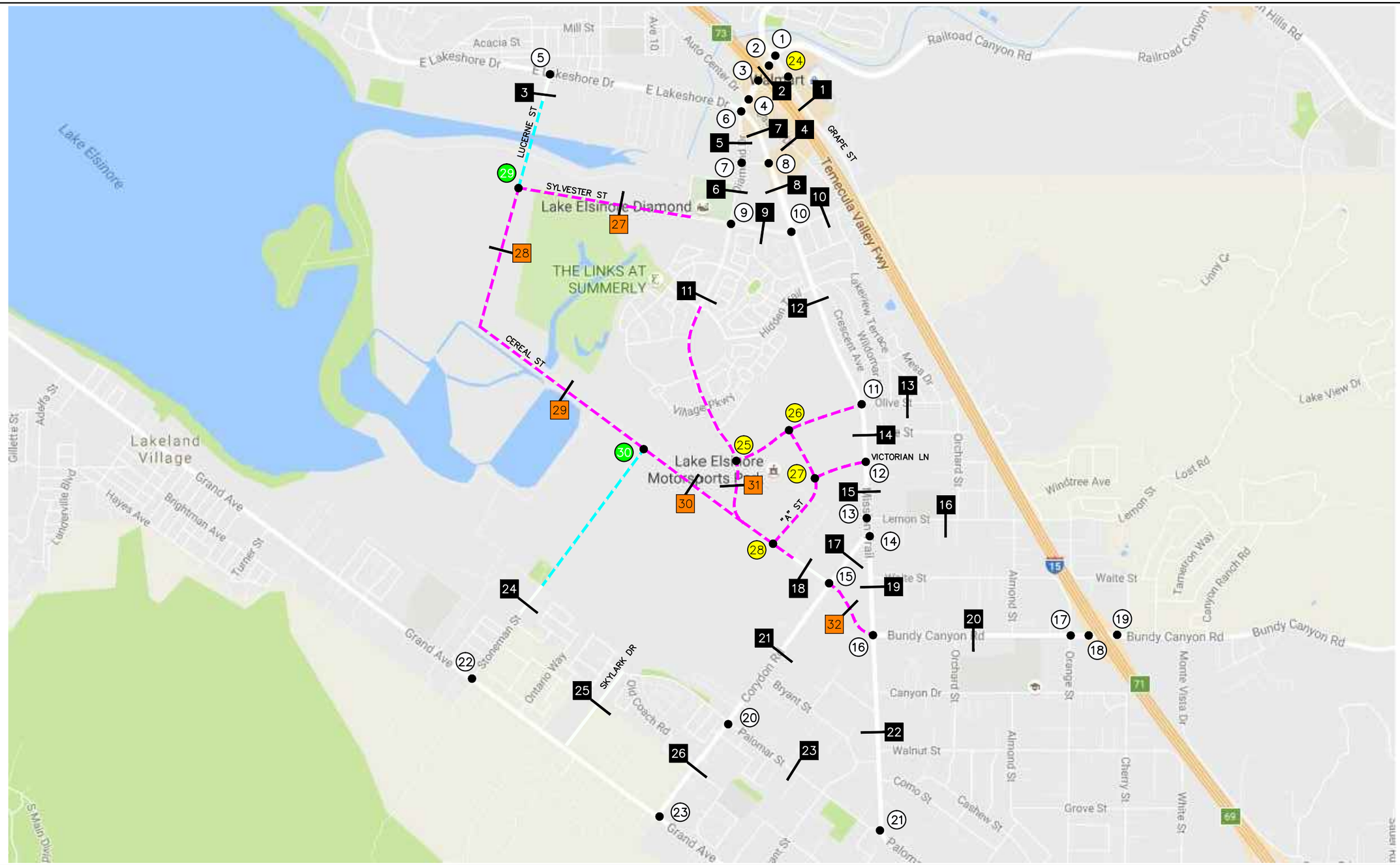
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday Midday peak hour LOS analyses for Near-Term (Year 2022) Conditions without and with Project traffic,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday Midday peak hour LOS analyses for Long-Term (Year 2040) Conditions without and with Project traffic,
- Planned and Recommended Improvements,
- Traffic Signal Warrant Analysis,
- Project Fair Share Analysis, and
- Caltrans Facilities Analysis.

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the East Lake Specific Plan Area and depicts the existing and future (Phase I and Buildout) study locations and surrounding street system.

1.3 Traffic Impact Analysis Scenarios

The following scenarios are those for which Weekday AM, Weekday PM and Saturday Midday peak hour Delay calculations as well as Weekday Daily and Saturday Daily V/C calculations have been performed at the key intersections and roadway segments for existing, near-term, and long-term traffic conditions:

1. Existing Traffic Conditions,
2. Existing with East Lake Specific Plan (ELSP) Project Buildout Traffic Conditions,
3. Scenario (2) with Mitigation, if any,
4. Year 2022 without ELSP Project Phase I Traffic Conditions,
5. Year 2022 with ELSP Project Phase I Traffic Conditions,
6. Scenario (5) with Mitigation, if any,
7. Year 2040 with Adopted Specific Plan Traffic Conditions,
8. Year 2040 with ELSP Project Buildout Traffic Conditions, and
9. Scenario (8) with Mitigation, if any.



SOURCE: GOOGLE

KEY

- (#) = EXISTING STUDY INTERSECTION
- (#) = FUTURE STUDY INTERSECTION (PHASE I)
- (#) = FUTURE STUDY INTERSECTION (BUILDOUT)
- = FUTURE ROADWAY (PHASE I)
- = FUTURE ROADWAY (BUILDOUT)
- # = EXISTING STUDY ROADWAY SEGMENT
- # = FUTURE STUDY ROADWAY SEGMENT (PHASE I)

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 1–1

VICINITY MAP

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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2.0 PROJECT DESCRIPTION AND LOCATION

The East Lake Specific Plan is generally located east of Lake Elsinore, south of Lakeshore Drive, west of Mission Trail/Corydon Road and North of Grand Avenue. The East Lake Specific Plan will consist of major mixed-use development including land uses such as residential, commercial, action sports, tourism, golf course/parks, preservation/mitigation areas, an airport and other uses. ***Table 2-1*** presents the land use breakdown for the East Lake Specific Plan broken down by Phase I and Buildout conditions, as well as by Planning Area. *Table 2-1* also details the land use breakdown specifically for the Adopted Specific Plan. ***Figure 2-1*** presents the existing aerial site for the East Lake Specific Plan area.

Phase I for the East Lake Specific Plan is expected to be completed by Year 2022 and this horizon year will be utilized to assess the Project's potential traffic impacts at Phase I occupancy within a near-term cumulative traffic setting.

Buildout for the East Lake Specific Plan is expected to be completed by Year 2040 and this buildout year will be utilized to assess the Project's potential traffic impacts at full occupancy under Year 2040 traffic conditions.

Figure 2-3 presents the East Lake Specific Plan Land Use Map, prepared by the City of Lake Elsinore, which corresponds with *Table 2-1* previously mentioned. ***Figure 2-4*** presents the East Lake Specific Plan Circulation Map which is basis for the assumed roadway network under Year 2040 traffic conditions.

Year 2040 With ELSP Project Buildout will be compared to Year 2040 With Adopted Specific Plan (Specific Plan No. 10) traffic conditions. ***Figure 2-5*** presents the Adopted Specific Plan Land Use Map, prepared by the City of Lake Elsinore, which corresponds with *Table 2-1* previously mentioned. ***Figure 2-6*** presents the Adopted Specific Plan Circulation Map which is basis for the assumed roadway network under Year 2040 traffic conditions.

2.1 East Lake Specific Plan Circulation

As shown in *Figure 2-4*, the East Lake Specific Plan area is comprised of several roadways, proposed and existing, that will provide access to the various planning areas. Lakeshore Drive and Mission Trail borders ELSP to the north and east, respectively. Corydon Road also borders ELSP to the east. Grand Avenue runs parallel to the southern border. Diamond Drive, Malaga Road, Olive Street, Victorian Lane and Cereal Street will extend through the ELSP area and provide access to the eight planning areas. Additionally under buildout conditions, Stoneman Street and Lucerne Street will be extended to Cereal Street and Sylvester Street, respectively, to provide additional access to within the East Lake Specific Plan area. Key study intersections #24 through #30 are proposed intersections within East Lake Specific Plan and will form with in conjunction with these future roadways. Further discussion on these future East Lake Specific Plan intersections and roadway segments is provided in *Section 9.0*.

TABLE 2-1
EAST LAKE SPECIFIC PLAN LAND USE PHASING SUMMARY[5]

Planning Area	Land Use Type	Existing/Baseline Development	Proposed Phase I (Year 2022) Development		Proposed Buildout (Year 2040) Development (SPN #11)		Adopted Specific Plan Amendment #10 Development Totals		Proposed 2040 Buildout Totals vs. Adopted SPA #10 Totals Difference
			Phase I Additional	Total After Phase I	Phase II Additional	Total After Buildout	Total	Units	
Planning Area 1 (707.5 Acres)	Golf Course (18 Hole)	169 AC	--	169 AC	--	169 AC	169 AC	--	--
	Hotel	--	90 RM	90 RM	--	90 RM	--	90 RM	--
	Single-Family Residential	600 DU	1,379 DU	1,979 DU	--	1,979 DU	--	1,979 DU	--
	Preservation/Mitigation	100.43 AC	--	100.43 AC	--	100.43 AC	--	100.43 AC	--
Planning Area 2 (310.6 Acres)	Active Recreation 2 (e.g. Ski/Water/Hockey)	--	60-100 AC	60-100 AC	--	60-100 AC	--	--	60-100 AC
	Action Sport 1 (e.g. Motocross)	93 AC	--	--	--	--	0	--	(93 AC)
	Commercial	--	43,500 SF	43,500 SF	246,500 SF	290,000 SF	392,040 SF (30 AC)	--	(102,040 SF)
	Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
	Multi-Family Residential	--	300 DU	300 DU	300 DU	600 DU	--	1,301 DU	(701)
	Single-Family Residential	--	--	--	--	--	--	930 DU	(930 DU)
	Restaurant	--	4,500 SF	4,500 SF	25,500 SF	30,000 SF	--	--	30,000 SF
	Park	--	N/A	N/A	N/A	N/A	7.5 AC	--	N/A
Planning Area 3 (603.7 Acres)	Active Recreation 1 or 2	--	100 AC	100 AC	--	100 AC	--	--	100 AC
	Active Recreation 2 (e.g. Ski/Water/Hockey)	--	--	--	60-100 AC	60-100 AC	--	--	60-100 AC
	Commercial	--	30,000 SF	30,000 SF	70,000 SF	100,000 SF	--	--	100,000 SF
	Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
	Restaurant	--	4,500 SF	4,500 SF	25,500 SF	30,000 SF	--	--	30,000 SF
	Skydive Airport	150 AC	--	150 AC	--	150 AC	150 AC	--	--
	Multi-Family Residential	--	--	--	--	--	--	48 DU	(48 DU)
	Single-Family Residential	--	--	--	--	--	--	215 DU	(215 DU)
	Active Open Space	--	--	--	--	--	186.6	--	(186.6)
	Limited Industrial	--	--	--	--	--	--	--	--
	Preservation/Mitigation	--	20.46 AC	20.46 AC	--	20.46 AC	--	--	20.46 AC
Planning Area 4 (98.2 Acres)	Residential	311 DU	--	311 DU	--	311 DU	--	311 DU	--
	Park	5.5	--	5.5	--	5.5	5.5	--	--
	Preservation/Mitigation	11.73	--	11.73	'--	11.73	11.73	--	--
Planning Area 5 (422.6 Acres)	Preservation/Mitigation	422.6 Ac	--	422.6 AC	--	422.6 AC	422.6 AC	--	--
Planning Area 6 (425.2 Acres)	Active Recreation 1 (Baseball/Concert)	--	100 AC	100 AC	--	100 AC	--	--	100 AC
	Action Sport 1 (Motocross)	--	93 AC	93 AC	--	93 AC	--	--	93 AC
	Action Sport 2 (Hard Track)	--	80 AC	80 AC	--	80 AC	--	--	80 AC
	Commercial	--	--	--	10,000 SF	10,000 SF	818,928 SF	--	(808,928 SF)
	Hotel	--	--	--	150 RM	150 RM	--	--	150 RM
	Multi-Family Residential	--	--	--	--	--	--	0 DU	(0 DU)
	Single-Family Residential	--	--	--	--	--	--	1,189 DU	(1,189 DU)
	Restaurant	--	--	--	7,500 SF	7,500 SF	7,500 SF	--	7,500 SF
	Preservation/Mitigation	--	70.18 AC	70.18 AC	--	70.18 AC	70.18 AC	--	--
Planning Area 7 (187.7 Acres)	Action Sports Uses	--	--	--	8.5 AC	8.5 AC	0 AC	--	7.5 AC
	Preservation/Mitigation	--	174.4 AC	174.4 AC	--	174.4 AC		--	174.4 AC
Planning Area 8 (196.7 Acres)	Commercial/Overlay	--	--	--	58,000 SF	58,000 SF	352,836 SF	--	(294,836 SF)
	Multi-Family Residential	195 DU	--	195 DU	255 DU	450 DU	--	535 DU	(85 DU)
	Single-Family Residential	130 DU	--	130 DU	170 DU	300 DU	--	613 DU	(313 DU)

KEY:
[a] SF = Square-Feet
[b] AC = Acres
[c] RM = Rooms
[d] DU = Dwelling Units

Notes:
1. Preservation/Mitigation area and passive open space area totals subject to change. Total preservation/mitigation area in Back Basin required for MSHCP compliance is 770 acres.

[5] Source: City of Lake Elsinore.

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

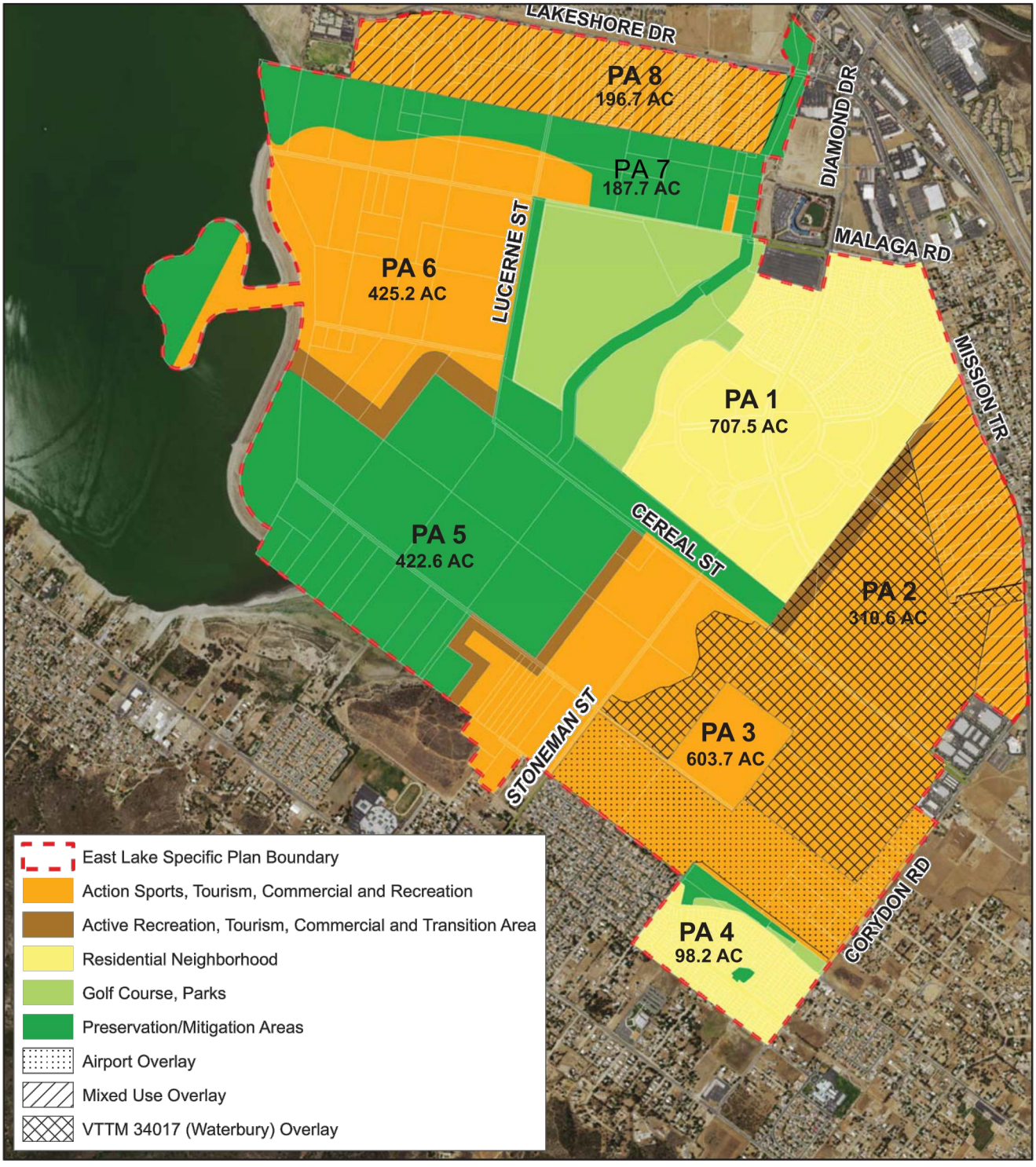
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING AERIAL SITE PLAN

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



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LINSCOTT LAW & GREENSPAN engineers

SOURCE: CITY OF LAKE ELSINORE

N NO SCALE

FIGURE 2-2

PROPOSED EAST LAKE SPECIFIC PLAN LAND USE MAP

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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LINSCOTT LAW & GREENSPAN engineers

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SOURCE: CITY OF LAKE ELSINORE

FIGURE 2-3

PROPOSED EAST LAKE SPECIFIC PLAN CIRCULATION MAP

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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LINSCOTT LAW & GREENSPAN engineers

SOURCE: CITY OF LAKE ELSINORE

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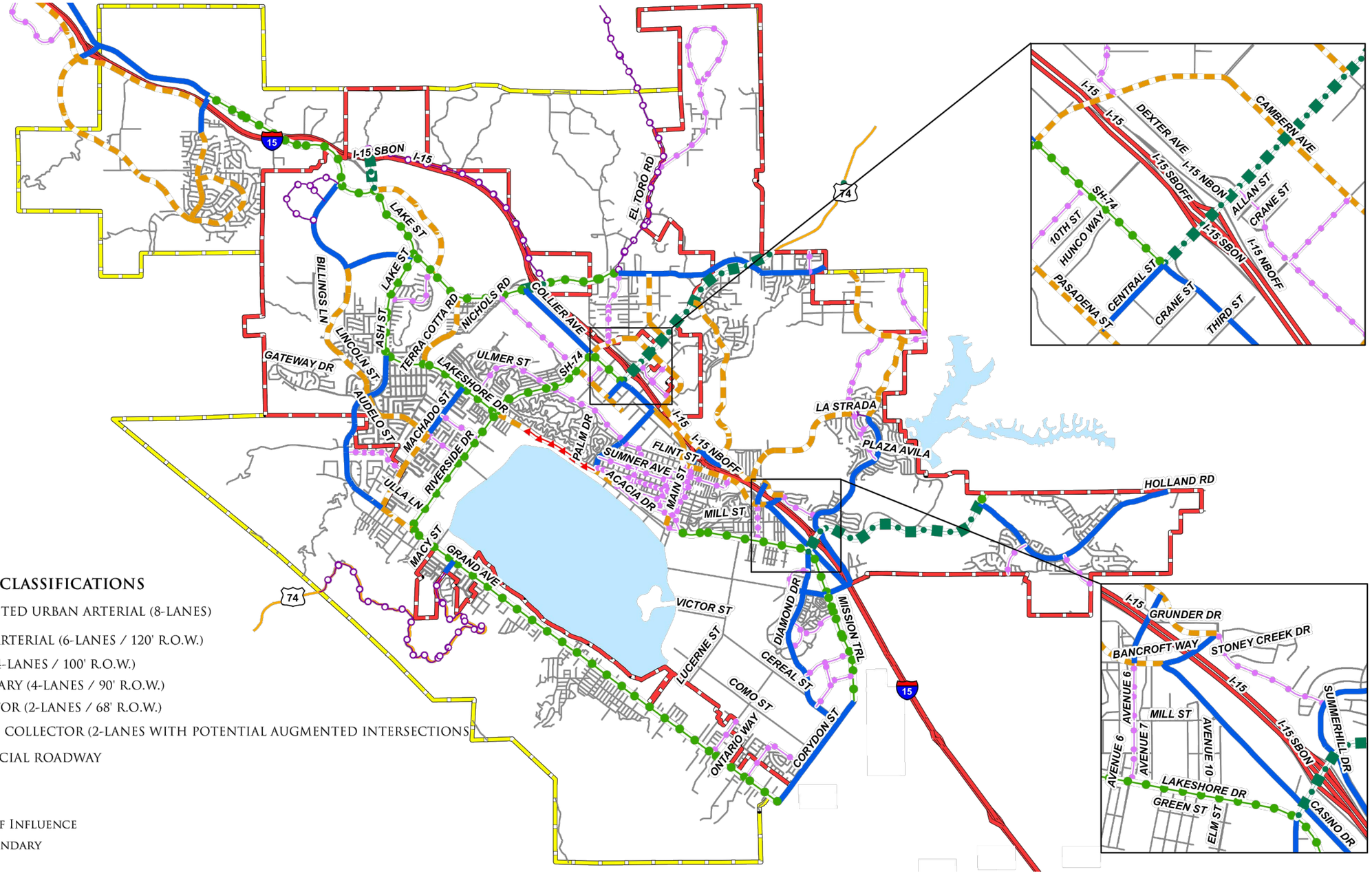
FIGURE 2-4

ADOPTED SPECIFIC PLAN LAND USE MAP

EAST LAKE SPECIFIC PLAN EIR, 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

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: CITY OF LAKE ELSINORE

FIGURE 2-5

CITY OF LAKE ELSINORE
CIRCULATION ELEMENT
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street Network

The I-15 Freeway provides regional access to the Project site. The I-15 Freeway runs in the north-south direction, east of the Project site. The principal local network of streets serving the site consists of Diamond Drive/Railroad Canyon Road, Lakeshore Drive/Mission Trail, Corydon Road, Orange Street, Malaga Road, Olive Street, Lemon Street, Bundy Canyon Road, Palomar Street and Grand Avenue. The following discussion provides a brief synopsis of the key area streets.

3.2 Existing Street Network

Diamond Drive/Railroad Canyon Road is a north-south roadway within the vicinity of the Project site. South of I-15 Southbound Ramps the roadway is Diamond Drive and turns into Railroad Canyon Road north of I-15 Southbound Ramps. On-street parking is not permitted on either side of the roadway in the vicinity of the Project. Diamond Drive/Railroad Canyon Road is a four-lane divided roadway with a posted speed limit of 35 miles per hour (mph) south of the I-15 freeway and decreases to 30 mph north of the I-15 freeway. Traffic signals control the key study intersections of Diamond Drive and Summerhill Drive/Grape Street, I-15 Northbound Ramps, I-15 Southbound Ramps, Auto Center Drive/Casino Drive, Campbell Street and Malaga Road.

Lakeshore Drive/Mission Trail is an east-west roadway west of Diamond Drive and a north-south roadway east of Diamond Drive. West of Diamond Drive the roadway is Lakeshore Drive and turns into Mission Trail east of Diamond Drive. On-street parking is not permitted on either side of the roadway within the Project vicinity. Lakeshore Drive/Mission Trail is a four-lane divided roadway with a posted speed limit of 45 mph. Traffic signals control the key study intersections of Lakeshore Drive/Mission Trail and Diamond Drive, Malaga Road, Olive Street, Lemon Street, Corydon Road and Bundy Canyon Road. The intersections of Lakeshore Drive/Mission Trail and Campbell Street, Victorian Lane and Palomar Street are stop-controlled.

Corydon Road is a north-south roadway within the vicinity of the Project site. On-street parking is generally not permitted on either side of the roadway. Corydon Road is a two-lane undivided roadway with a posted speed limit of 45 mph. Traffic signals control the key study intersections of Corydon Road and Mission Trail, Palomar Street and Grand Avenue. The intersection of Corydon Road and Cereal Street is controlled by a one-way stop.

Orange Street is a north-south roadway within the vicinity of the Project site. On-street parking is not permitted on either side of the roadway. Orange Street is a two-lane undivided roadway with a posted speed limit of 40 mph.

Malaga Road is an east-west roadway located within the vicinity of the Project site. On-street parking is not permitted on either side of the roadway. Malaga Road is a four-lane, divided roadway west of Mission Trail and a two-lane, undivided roadway east of Mission trail. The posted speed limit along Malaga Road is 35 mph.

Olive Street is an east-west, two-lane undivided roadway located within the vicinity of the Project site. On-street parking is permitted on both sides of the roadway within the vicinity of the Project. The posted speed limit along Olive Street is 25 mph.

Lemon Street is an east-west, two-lane undivided roadway located within the vicinity of the Project site. On-street parking is not permitted on both sides of the roadway within the vicinity of the Project. The posted speed limit along Lemon Street is 25 mph.

Bundy Canyon Road is an east-west roadway located within the vicinity of the Project site. Bundy Canyon Road is a two-lane undivided roadway between Mission Trail and Orchard Street, three-lane undivided roadway between Orchard Street and Orange Street, four-lane divided roadway between Orange Street and I-15 Northbound Ramps and a two-lane undivided roadway east of the I-15 Northbound Ramps. Parking is not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Bundy Canyon Road is 45 mph. The intersections of Bundy Canyon Road at Mission Trail, Orange Street, I-15 Southbound Ramps and I-15 Northbound Ramps are controlled by traffic signals.

Palomar Street is an east-west, two-lane undivided roadway located within the vicinity of the Project site. Parking is permitted on the south side of the roadway and the posted speed limit on Palomar Street is 35 mph.

Grand Avenue is an east-west, two-lane divided roadway located within the vicinity of the Project site. On-street parking is not permitted on either side of the roadway and the posted speed limit on Grand Avenue is 50 mph.

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

3.3 Existing Transit Services

The study area is served by the Riverside Transit Agency (RTA). A description of the transit services is as follows:

Riverside Transit Agency (RTA)

Route 8: Lake Elsinore, Wildomar Loop Route

- The route extends from the Lake Elsinore Outlet Center in Lake Elsinore to the Wildomar Independent and Assisted Living in Wildomar. The route then travels northwest along Grand Avenue past the lake and heads northeast up Riverside Drive back towards the Outlet Center.
- The route mainly travels along Lakeshore Drive/Mission Trail, Grand Avenue and Palomar Street within the vicinity of the Project.
- There are several bus stops located within the vicinity of the study area. They are located:
    - Twenty-three bus stops located along Lakeshore Drive/Mission Trail
    - Sixteen bus stops located along Grand Avenue

- Five bus stops located along Palomar Street

3.4 Existing Traffic Volumes

Existing AM, PM and Saturday Midday peak hour traffic volumes for the twenty-three (23) key existing study intersections and daily two-way traffic volumes for the twenty-six (26) key existing roadway segments evaluated in this report, were collected by *Counts Unlimited, Inc.* in May and December 2016. ***Appendix B*** contains the existing intersection turning movement and roadway segment traffic count data.

Figures 3-2, 3-3 and ***3-4*** present the existing Weekday AM, Weekday PM and Saturday Midday peak hour traffic volumes, respectively, for the twenty-three (23) key existing study intersections. ***Figures 3-5*** and ***3-6*** present the existing Weekday and Saturday daily traffic volumes, respectively, for the twenty-six (26) key existing study roadway segments.

3.5 Level Of Service (LOS) Analysis Methodologies

AM, PM and Saturday Midday peak hour operating conditions for the key study intersections were evaluated using the methodology outlined in *Chapter 18 of the Highway Capacity Manual 2010 (HCM 2010)* for signalized intersections, the methodology outlined in *Chapter 19 of the HCM 2010* for two-way stop-controlled intersections, and the methodology outlined in *Chapter 20 of the HCM 2010* for all-way stop-controlled intersections. Daily operating conditions for the key study roadway segments were analyzed using the *Volume to Capacity (V/C) Ratio*. Freeway mainline segments and ramp merge/diverge segments were analyzed using *HCM 2010 Chapters 11 and 13, respectively*. Daily operating conditions for the key study roadway segments were analyzed using the *Volume to Capacity (V/C) ratio*.

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

Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in ***Table 3-1***.

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

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

3.5.2.1 Two-Way Stop-Controlled Intersections

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections are shown in ***Table 3-2***.

3.5.2.2 All-Way Stop-Controlled Intersections

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections are shown in *Table 3-2*.

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

In conformance with the City of Lake Elsinore requirements, daily operating conditions for the key study roadway segments have been investigated according to the Volume to Capacity (V/C) Ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes 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 3-3***.

The roadway segment daily capacity of each street classification according to the *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011)* is presented in ***Table 3-4.***

3.5.4 *Basic Freeway Segments*

The basic freeway segment criteria is based on peak hour *HCM 2010* density analysis. The capacities are based on information contained in the *HCM 2010*. Existing traffic count data for the analyzed freeway segments was obtained from the Caltrans website.

Basic freeway segment levels of service are determined from segment density. ***Table 3-5*** presents the correlation between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway basic freeway segments.

3.5.5 *Freeway Merge And Diverge Segments*

Freeway merge and diverge segment analysis is based on peak hour *HCM 2010* density analysis for freeway-to-arterial interchanges. According to *HCM 2010* methodology, the ramp merge and diverge segments focus on an influential area of 1,500 feet, including the acceleration or deceleration lane(s) and adjacent freeway ramps. The methodology incorporates three fundamental steps:

- Determination of the traffic entering the freeway lanes upstream of the merge or at the beginning of the deceleration lane at diverge;
- Determination of the capacity for the segment; and
- Determination of the density of traffic flow within the ramp influence area and its level of service.

The level of service (LOS) for freeway ramps is determined by traffic density based on criteria outlined in the *HCM 2010*. ***Table 3-6*** presents the correlation between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway merge and diverge segments.

3.6 Impact Criteria and Thresholds

City of Lake Elsinore

According to City of Lake Elsinore criteria, LOS D is the minimum acceptable condition that should be maintained during the weekday AM/PM and Saturday Midday peak commute hours. Therefore, any City intersection operating at LOS "E" or "F" will be considered adverse. However, as noted by the *City of Lake Elsinore General Plan Update Draft Program EIR* on page 3.4-58, the City considers LOS "E" as acceptable for City intersections located within either the Main Street Overlay District or the Ballpark District in an effort to increase activity and revitalize these areas. The roadway segments that are located within the City of Lake Elsinore must also maintain a LOS "D" or better. An impact is considered significant if the ELSP causes an intersection to drop below the target LOS as described above.

City of Wildomar

The definition for minimum LOS for intersections and roadway segments within the City of Wildomar is based on the County of Riverside General Plan Circulation Element. *Riverside County General Plan Policy C 2.1* states that LOS "D" shall apply to all development proposals located within the Community Development Areas of the Elsinore Area Plan, where the Project is located. In regards to this traffic analysis, LOS "D" will be considered the minimum acceptable LOS at all intersections and roadway segments within the City of Wildomar. Consistent with County of Riverside guidelines, an impact is considered significant if the proposed project causes an intersection to drop below the target LOS as described above.

Caltrans

Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For this analysis, LOS D is the target level of

service standard and will be utilized to assess the project impacts at the state-controlled study intersections, consistent with City of Lake Elsinore requirements.

Based on the above, the following summarizes the minimum LOS required for each key study intersection and roadway segment:

LOS "D" Requirements – Key Study Intersections	
1. Railroad Canyon Rd at Summerhill Lane/Grape St	19. I-15 NB Ramps at Bundy Canyon Road
2. Railroad Canyon Road at I-15 NB Ramps	20. Corydon Road at Palomar Street
3. Diamond Drive at I-15 SB Ramps	21. Mission Trail at Palomar Street
4. Diamond Dr at Casino Drive/Auto Center Dr	22. Stoneman Street at Grand Avenue
5. Lucerne Street at Lakeshore Drive	23. Corydon Road at Grand Avenue
11. Mission Trail at Olive Street	24. I-15 NB Ramps at Grape Street
12. Mission Trail at Victorian Lane	25. Diamond Drive at Olive Street
13. Mission Trail at Lemon Street	26. "A" Street at Olive Street
14. Mission Trail at Corydon Road	27. "A" Street at Victorian Lane
15. Corydon Road at Cereal Street	28. "A" Street at Cereal Street
16. Mission Trail at Bundy Canyon Road	29. Lucerne Street at Sylvester Street
17. Orange Street at Bundy Canyon Road	30. Stoneman Street at Cereal Street
18. I-15 SB Ramps at Bundy Canyon Road	
LOS "E" Requirements – Key Study Intersections	
6. Diamond Drive at Lakeshore Drive/Mission Trail	9. Diamond Drive at Malaga Road
7. Diamond Drive at Campbell Street	10. Mission Trail at Malaga Road
8. Mission Trail at Campbell Street	
LOS "D" Requirements – Key Study Roadway Segments	
1. Grape Street, east of Railroad Canyon Road	
2. Railroad Canyon Rd, between Summerhill Dr/Grape St and Lakeshore Dr/Mission Trail	
3. Lucerne Street, south of Lakeshore Drive	
4. Casino Drive, east of Diamond Drive	
5. Diamond Drive, between Lakeshore Drive/Mission Trail and Campbell Street	
6. Diamond Drive, between Campbell Street and Malaga Road	
7. Mission Trail, between Diamond Drive and Campbell Street	
8. Mission Trail, between Campbell Street and Malaga Road	

9. Malaga Road, between Diamond Drive and Mission Trail
10. Malaga Road, east of Mission Trail
11. Diamond Drive, north of Summerly Place
12. Mission Trail, between Malaga Road and Olive Street
13. Olive Street, between Mission Trail and Grape Street
14. Mission Trail, between Olive Street and Victorian Lane
15. Mission Trail, between Victorian Lane and Lemon Street
16. Lemon Street, between Mission Trail and Grape Street
17. Corydon Road, between Mission Trail and Cereal Street
18. Cereal Street, west of Corydon Road
19. Mission Trail, between Corydon Road and Bundy Canyon Road
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps
21. Corydon Road, between Cereal Street and Palomar Street
22. Mission Trail, between Bundy Canyon Road and Palomar Street
23. Palomar Street, between Corydon Road and Mission Trail
24. Stoneman Street, north of Grand Avenue
25. Skylark Drive, north of Grand Avenue
26. Corydon Road, between Palomar Street and Grand Avenue
27. Sylvester Street, between Lucerne Street and Diamond Drive
28. Lucerne Street, between Sylvester Street and Cereal Street
29. Cereal Street, between Lucerne Street and Stoneman Street
30. Cereal Street, between Stoneman Street and Diamond Drive
31. Diamond Drive, between Olive Street and Cereal Street
32. Bundy Canyon Road, between Corydon Road and Mission Trail

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[6]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 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 $\leq$ 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 $\leq$ 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 $\leq$ 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 $\leq$ 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	$\geq$ 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.

[6] Source: *Highway Capacity Manual 2000*, Chapter 16 (Signalized Intersections).

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[7]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	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

[7] Source: *Highway Capacity Manual 2000,* Chapter 17 (Unsignalized Intersections).

TABLE 3-3

LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[8]

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.

Note:

- **LOS F** applies whenever the flow rate exceeds the segment capacity.

[8] Source: *Transportation Research Board 2000.*

TABLE 3-4

DAILY ROADWAY SEGMENT CAPACITIES[9]

Type of Arterial	Lane Configuration	LOS E Capacity (VPD)
Urban Arterial	8-Lanes	71,800
Urban Arterial	6-Lanes	53,900
Major	4-Lanes	34,100
Secondary	4-Lanes	25,900
Divided Collector	4-Lanes	18,000
Collector	2-Lanes	13,000

Notes:

- VPD = Vehicles per Day

[9] Source: *City of Lake Elsinore General Plan Update Draft Program EIR – Section 3.4: Transportation and Circulation,* August 2011.

TABLE 3-5

BASIC FREEWAY SEGMENTS LEVEL OF SERVICE CRITERIA (HCM METHODOLOGY)[10]

LOS	Basic Freeway Segment Density (pc/mi/ln)
A	≤ 11.0
B	> 11.0 – 18.0
C	> 18.0 – 26.0
D	> 26.0 – 35.0
E	> 35.0 – 45.0
F	> 45.0

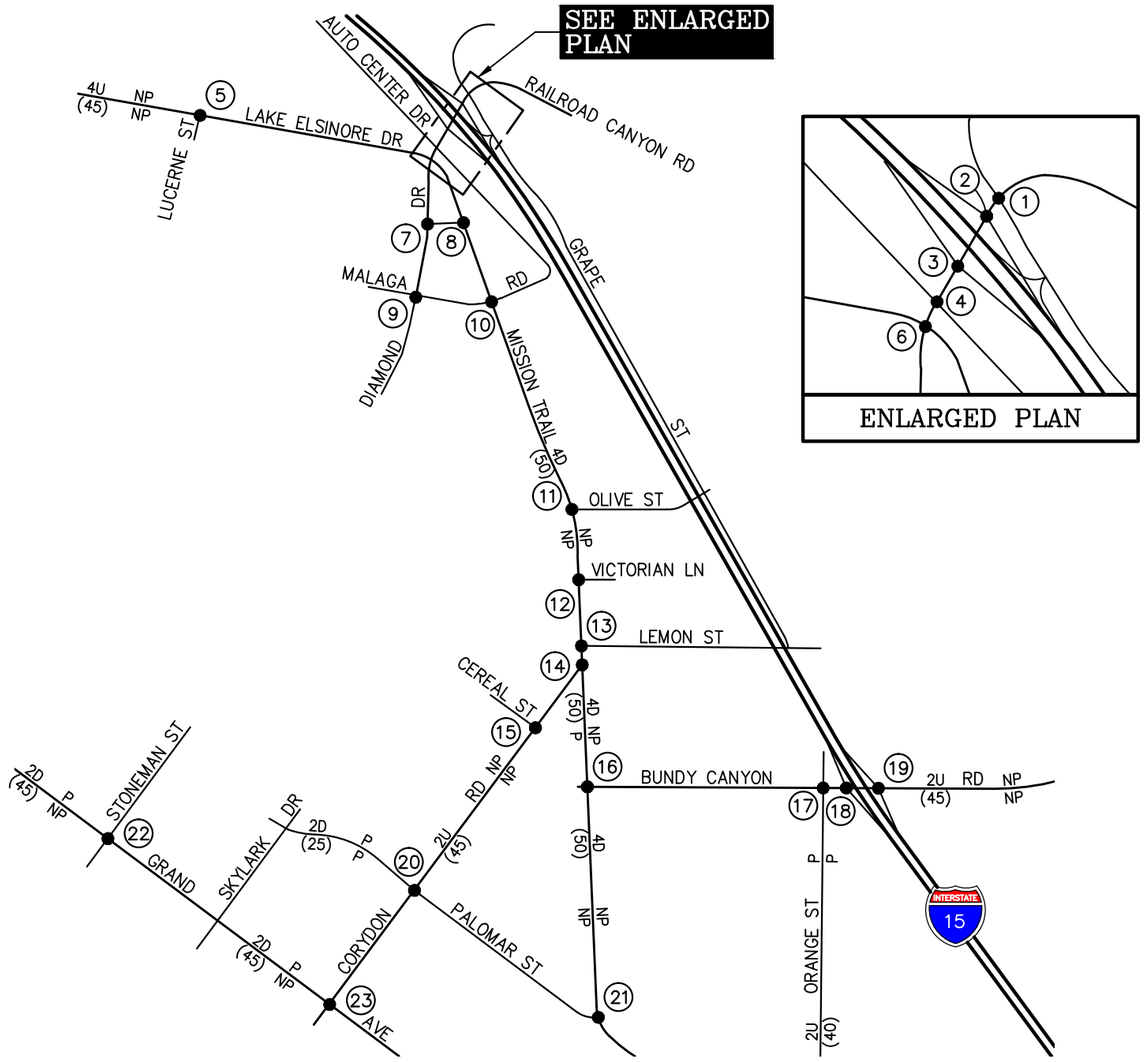
[10] Source: *HCM 2010, Chapter 11 – Basic Freeway Segments, Exhibit 11-5*.

TABLE 3-6

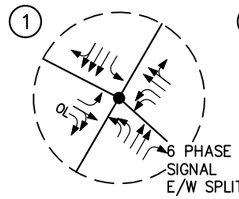
FREEWAY MERGE AND DIVERGE SEGMENTS LEVEL OF SERVICE CRITERIA (HCM METHODOLOGY)[11]

LOS	Freeway Ramp Density (pc/mi/ln)	Level of Service Description
A	≤ 10.0	Unrestricted operations
B	> 10.0 – 20.0	Merging and diverging maneuvers noticeable to drivers
C	> 20.0 – 28.0	Influence area speeds begin to decline
D	> 28.0 – 35.0	Influence area turbulence becomes intrusive
E	> 35.0	Turbulence felt by virtually all drivers
F	Demand Exceeds Capacity	Ramp and freeway queues form

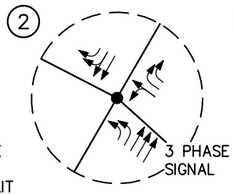
[11] Source: *HCM 2010, Chapter 13 – Freeway Merge and Diverge Segments, Exhibit 13-2.*



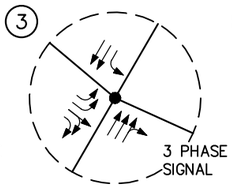
ENLARGED PLAN



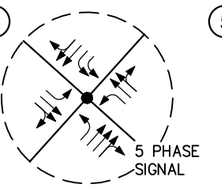
RAILROAD CANYON RD @ SUMMERHILL LN/GRAPE ST



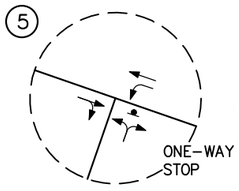
RAILROAD CANYON RD @ I–15 NB RAMPS



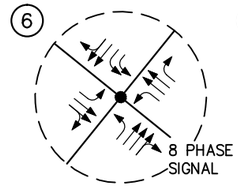
DIAMOND DR @ I–15 SB RAMPS



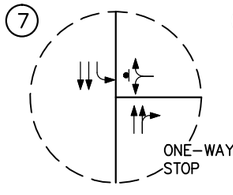
DIAMOND DR @ CASINO DR/AUTO CENTER DR



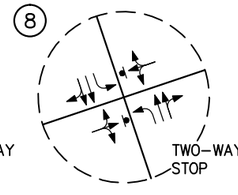
LUCERNE ST @ LAKESHORE DR



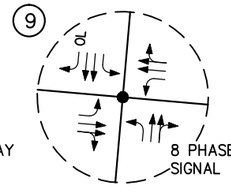
DIAMOND DR @ LAKESHORE DR/MISSTION TRAIL



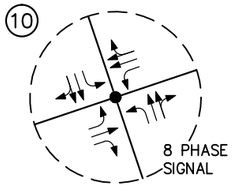
DIAMOND DR @ CAMPBELL ST



MISSION TRAIL @ CAMPBELL ST



DIAMOND DR @ MALAGA RD



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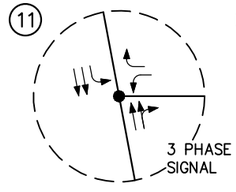

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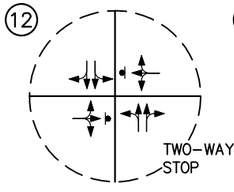

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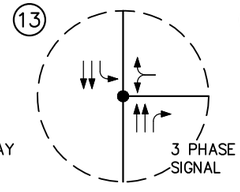

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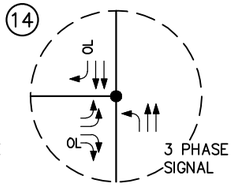
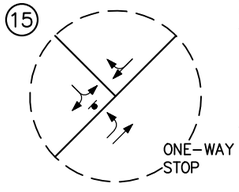
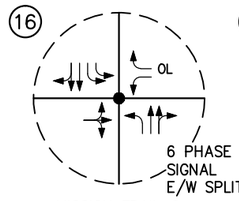


MISSION TRAIL @ CORYDON RD



CORYDON RD @ CEREAL ST



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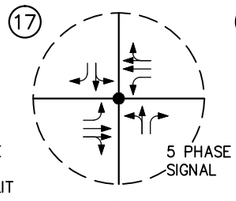

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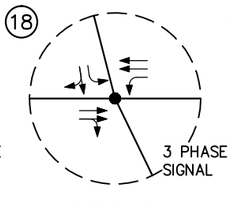
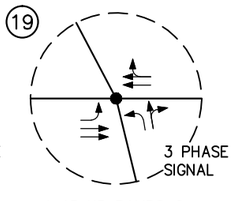
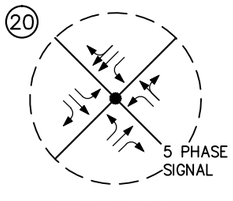


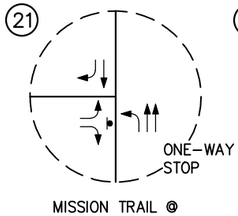
I–15 SB RAMPS @ BUNDY CANYON RD



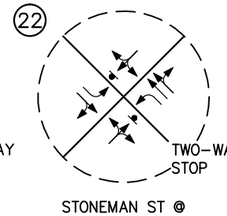
I–15 NB RAMPS @ BUNDY RANYON RD



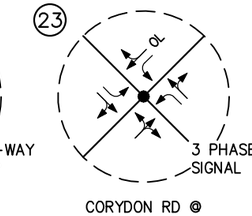
CORYDON RD @ PALOMAR ST



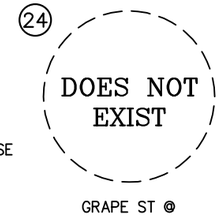
MISSION TRAIL @ PALOMAR ST



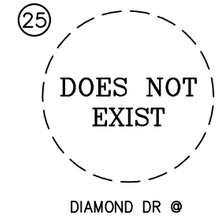
STONEMAN ST @ GRAND AVE



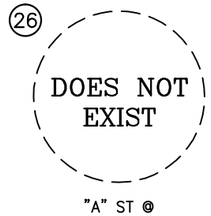
CORYDON RD @ GRAND AVE



GRAPE ST @ I–15 NB RAMPS

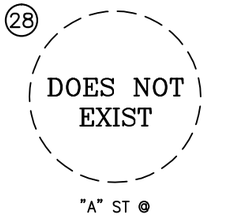


DIAMOND DR @ OLIVE ST



"A" ST @ OLIVE ST

"A" ST @ VICTORIAN LN



"A" ST @ CEREAL ST

LUCERNE ST @ SYLVESTER ST

STONEMAN ST @ CEREAL STREET

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N NO SCALE

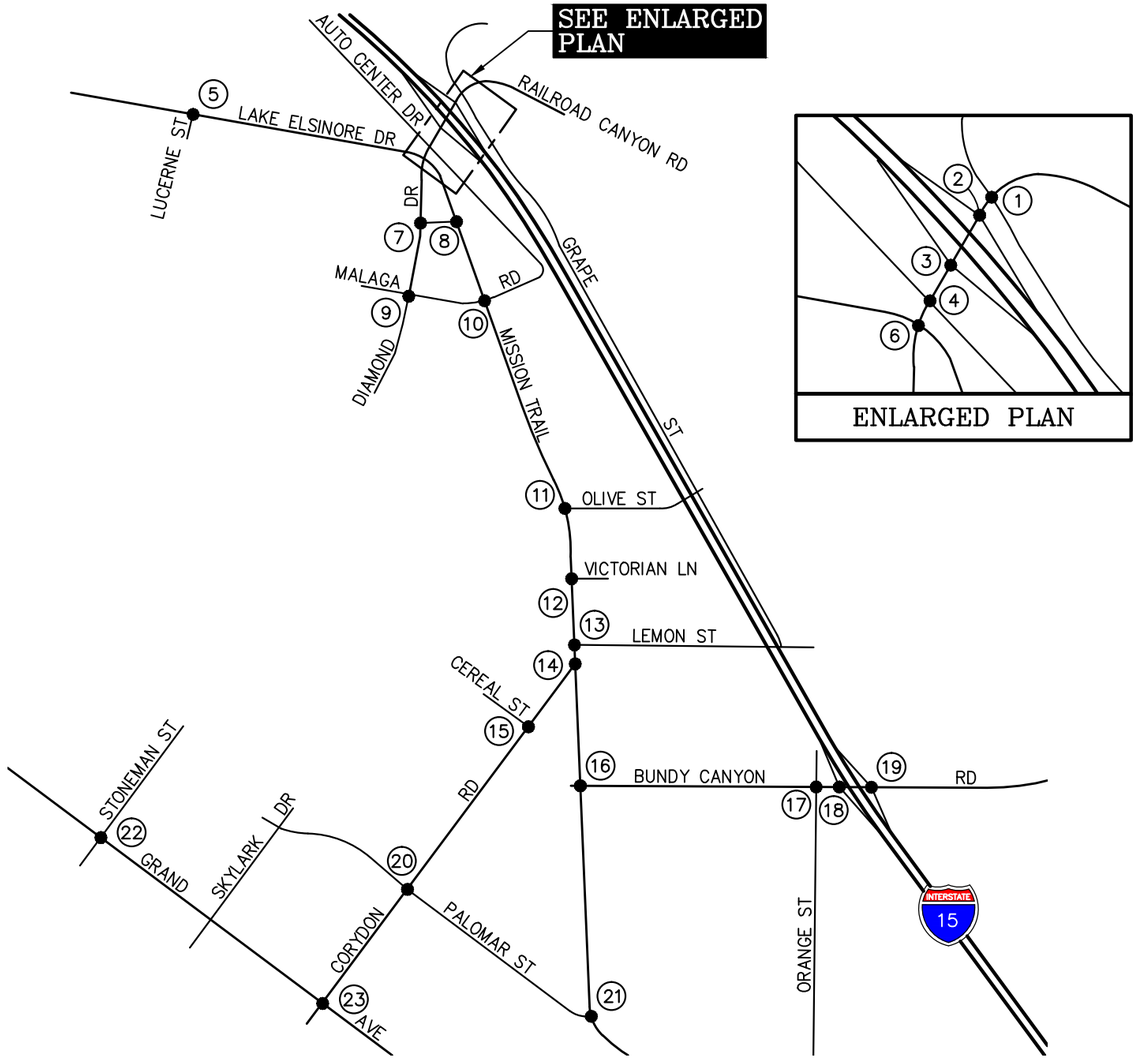
KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = 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

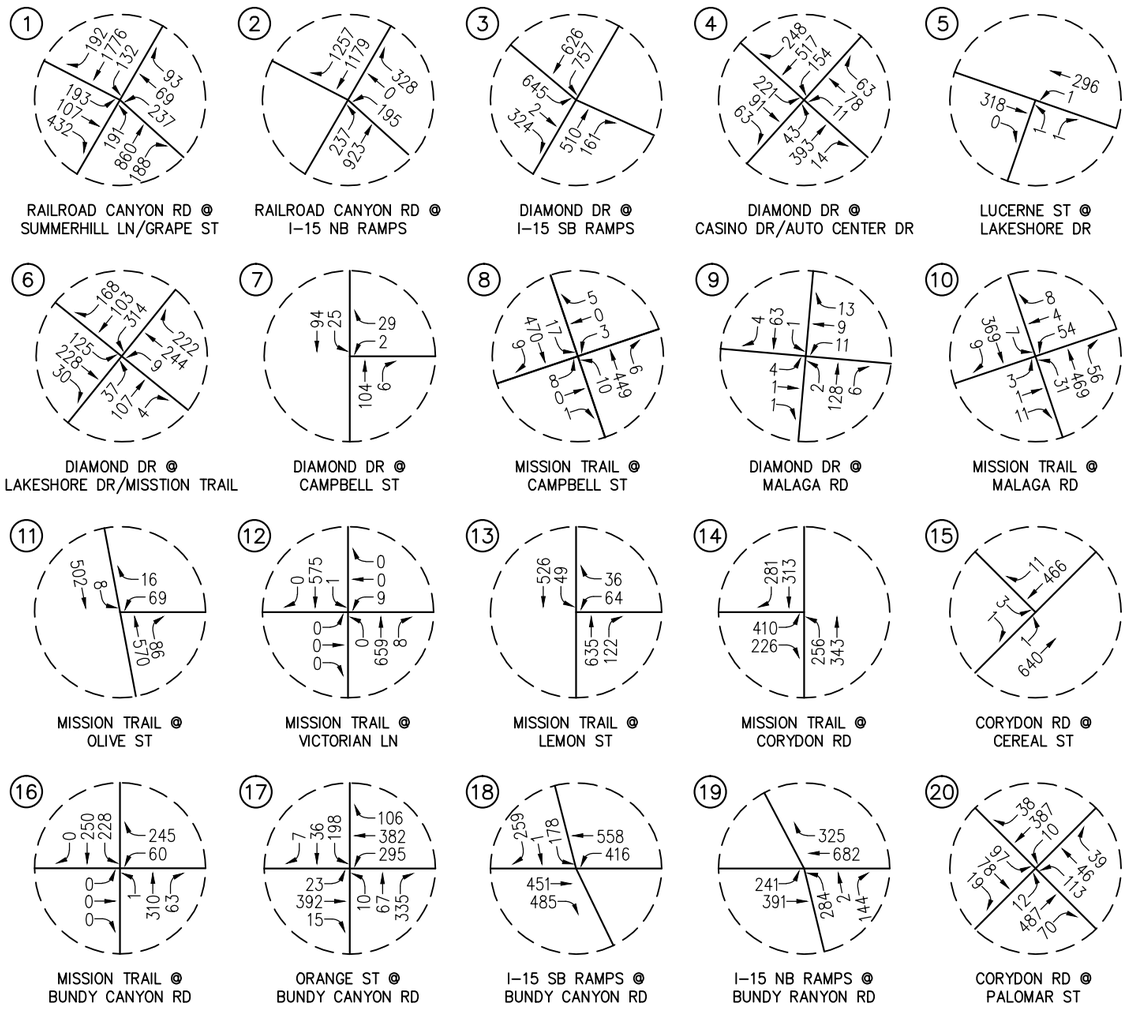
FIGURE 3–1

EXISTING LANE GEOMETRIES AND INTERSECTION CONTROLS

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



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N NO SCALE

KEY
(#) = STUDY INTERSECTION

FIGURE 3–2

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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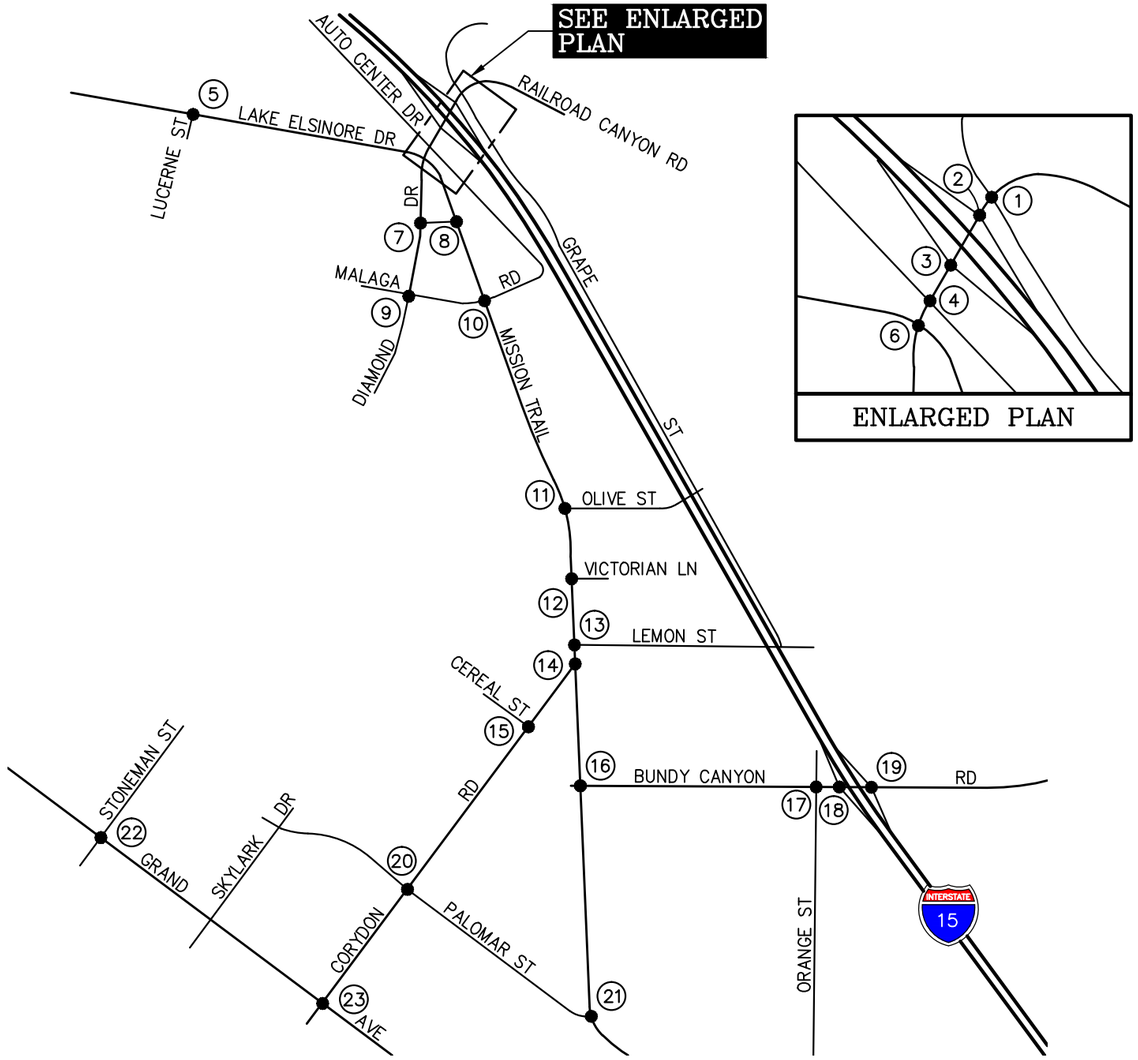
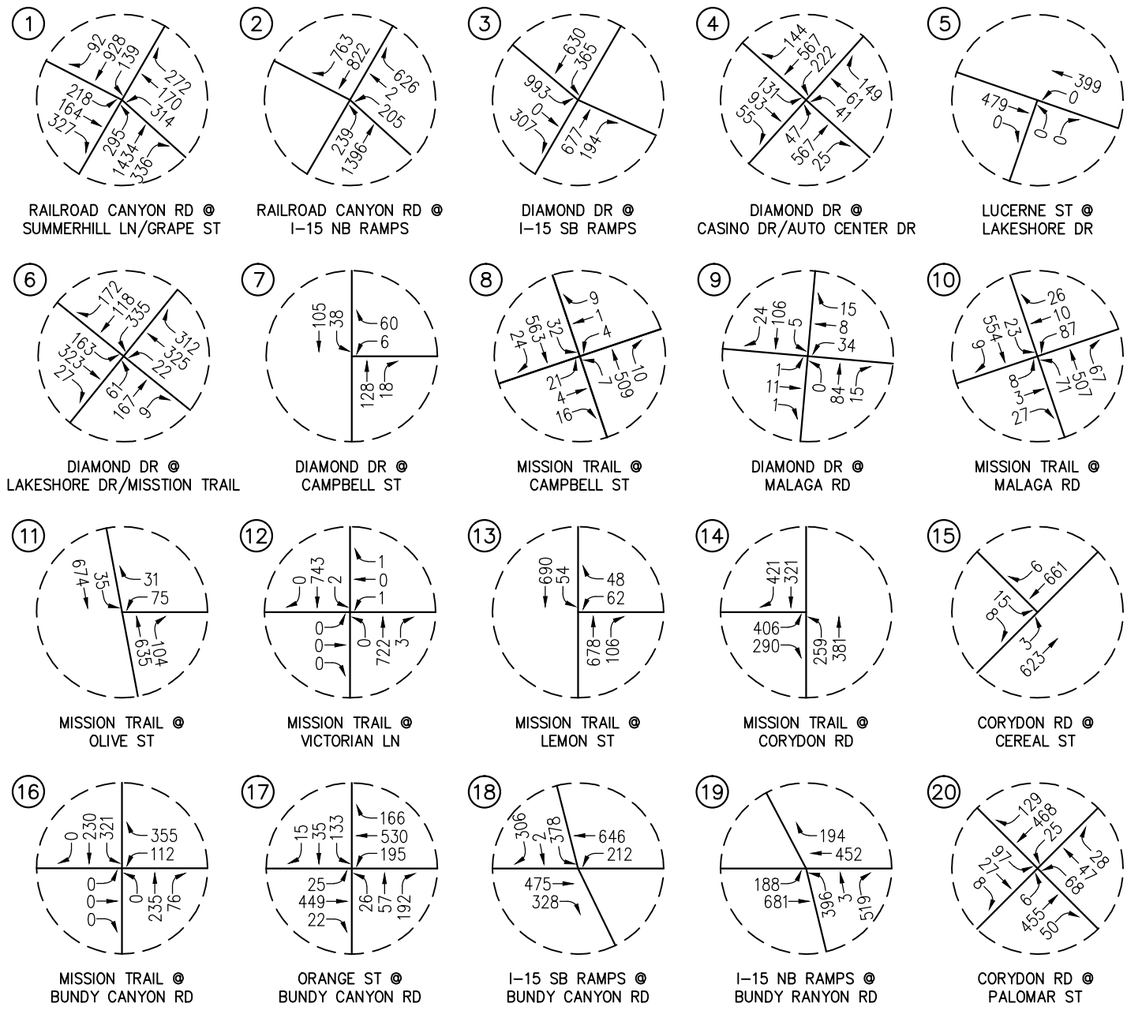


ENLARGED PLAN



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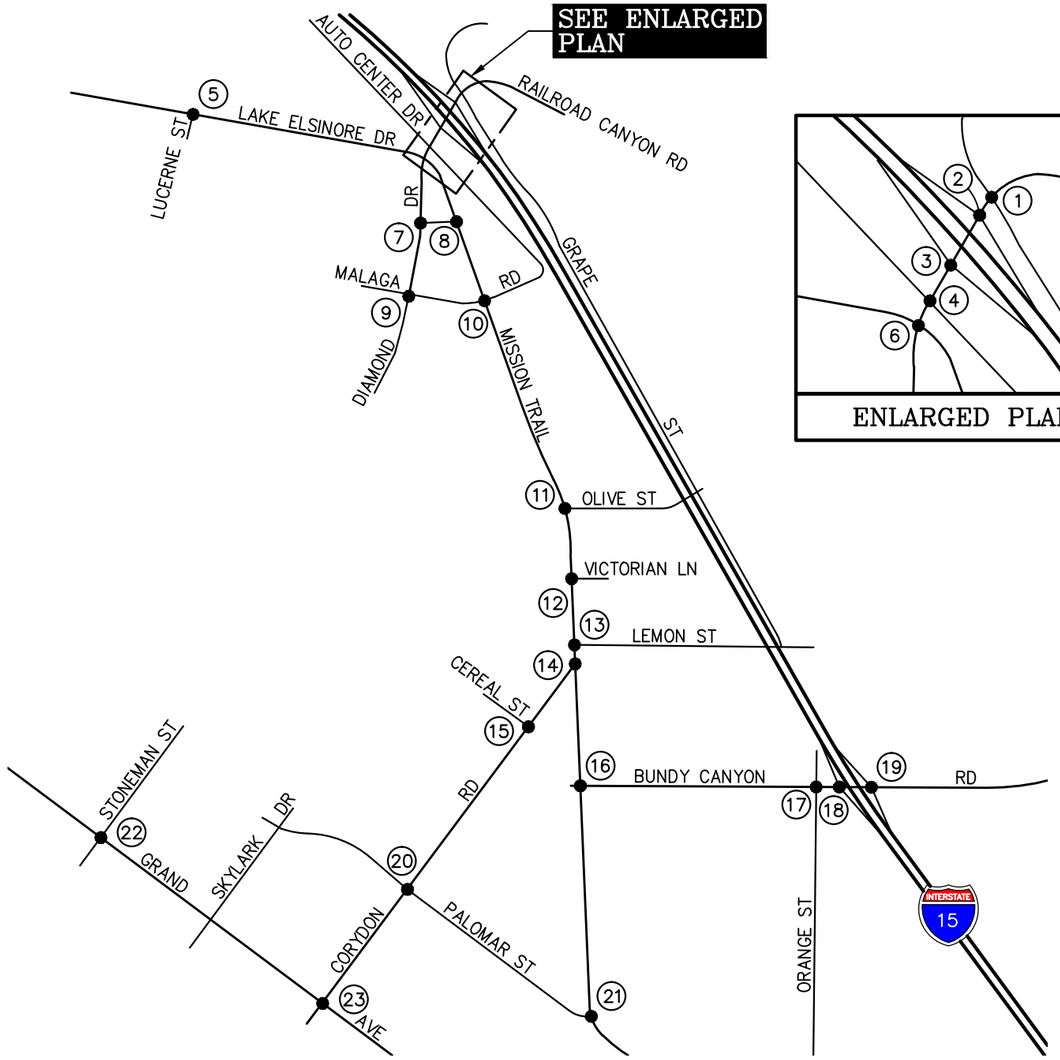
N NO SCALE

KEY
(#) = STUDY INTERSECTION

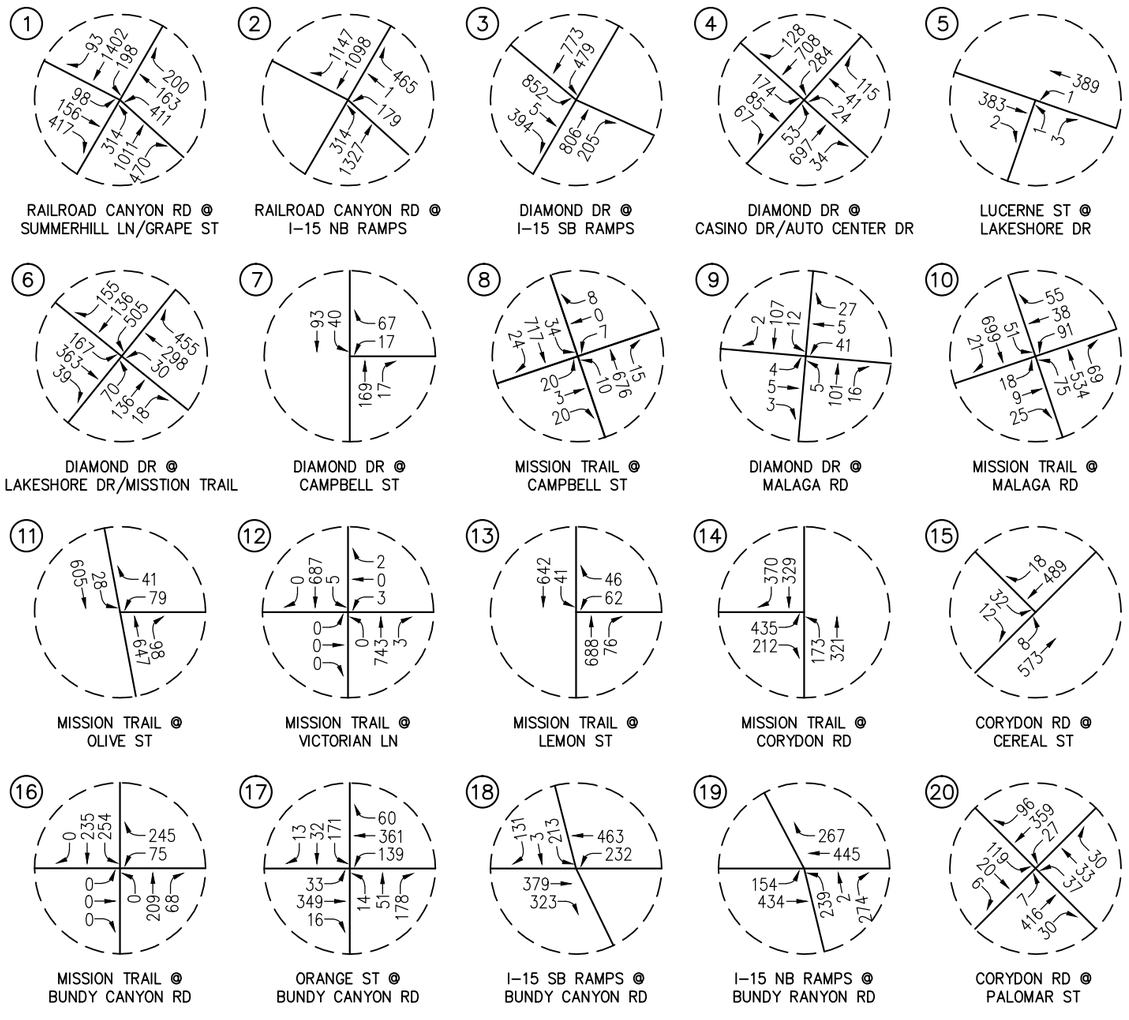
FIGURE 3–3

EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

n:\3500\2143544 – east lake specific plan eir, lake elsinore\6 – dwg\3544f3–3.dwg LDP 10:29:25 02–01–2017 besa



ENLARGED PLAN



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N NO SCALE

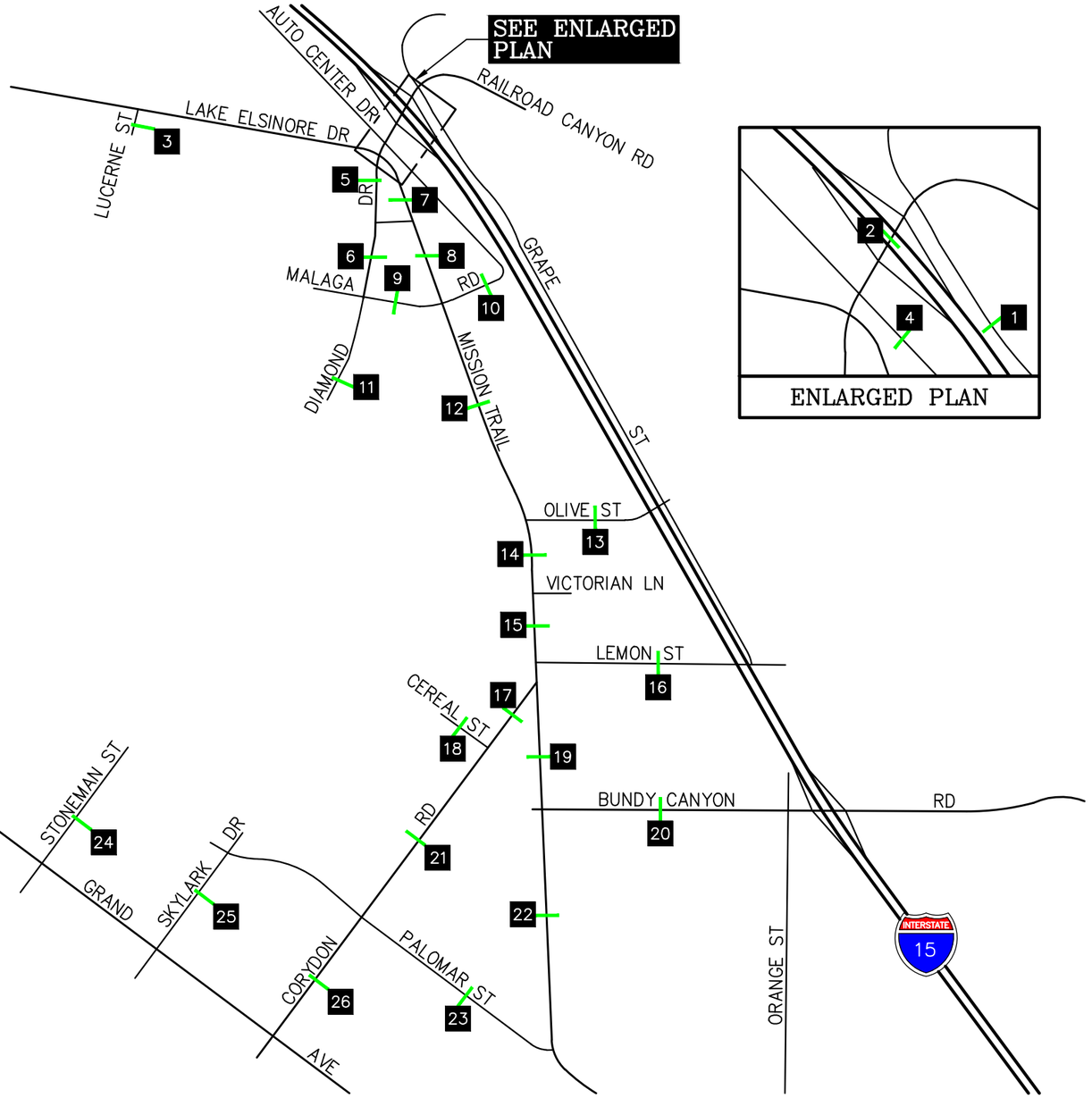
KEY

(#) = STUDY INTERSECTION

FIGURE 3–4

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	20,281	17	16,978
2	26,367	18	445
3	71	19	13,919
4	5,861	20	9,781
5	4,924	21	15,630
6	3,671	22	8,034
7	19,238	23	3,221
8	16,132	24	760
9	1,216	25	220
10	2,740	26	11,849
11	703	27	DOES NOT EXIST
12	16,593	28	DOES NOT EXIST
13	2,393	29	DOES NOT EXIST
14	17,898	30	DOES NOT EXIST
15	18,146	31	DOES NOT EXIST
16	3,253	32	DOES NOT EXIST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

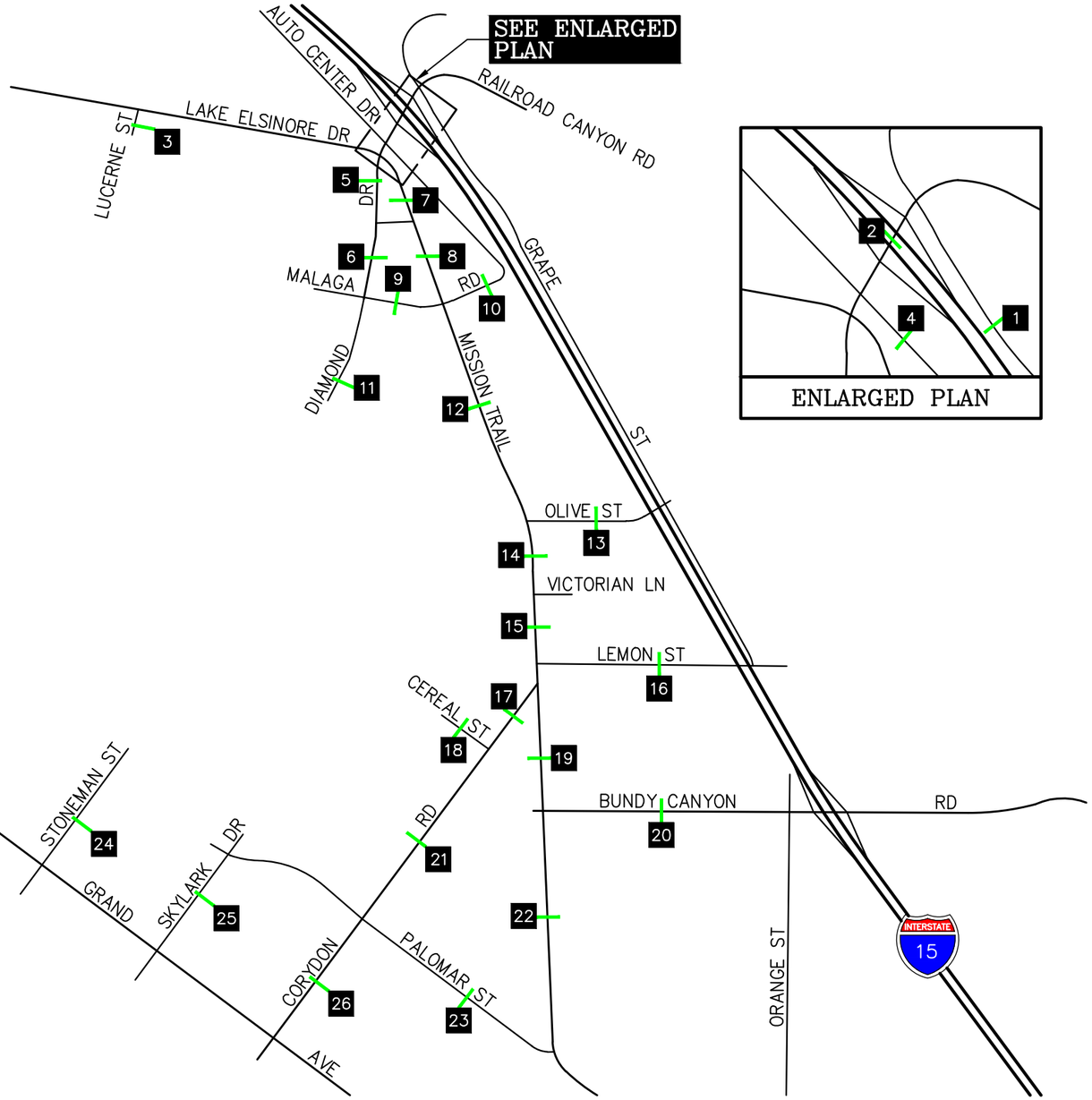
KEY

= STUDY ROADWAY SEGMENT

FIGURE 3-5

EXISTING WEEKDAY DAILY TRAFFIC VOLUMES

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	24,102	17	15,639
2	26,682	18	711
3	63	19	12,283
4	5,468	20	9,107
5	4,703	21	14,481
6	3,750	22	6,887
7	16,742	23	2,744
8	16,713	24	724
9	1,238	25	237
10	2,934	26	10,999
11	636	27	DOES NOT EXIST
12	16,042	28	DOES NOT EXIST
13	2,312	29	DOES NOT EXIST
14	16,952	30	DOES NOT EXIST
15	17,176	31	DOES NOT EXIST
16	3,007	32	DOES NOT EXIST

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N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 3-6

EXISTING SATURDAY DAILY TRAFFIC VOLUMES

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Project Trip Generation Forecast and Assignment

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The East Lake Specific Plan traffic has been modeled by LSA Associates, Inc. using the City of Lake Elsinore Transportation and Analysis Model (LETAM). Appropriate socio-economic data (SED) data was allocated to the ELSP Traffic Analysis Zones (TAZs) based on the project description information provided by the City of Lake Elsinore regarding ELSP land uses, which is also reflected in *Table 2-1*. This was done for both the Adopted Specific Plan as well as the Specific Plan Amendment scenarios. Riverside County FAR conversion factors that are allocated for the region have been utilized to develop SED data for the Project. Furthermore, county rates have also been used for converting square feet to employment for updating the SED data within the specific plan TAZs. Appropriate land uses were removed from the Buildout traffic conditions in order to derive Phase I Project traffic only.

4.1.1 *Year 2022 East Lake Specific Plan Project Phase I Assignment*

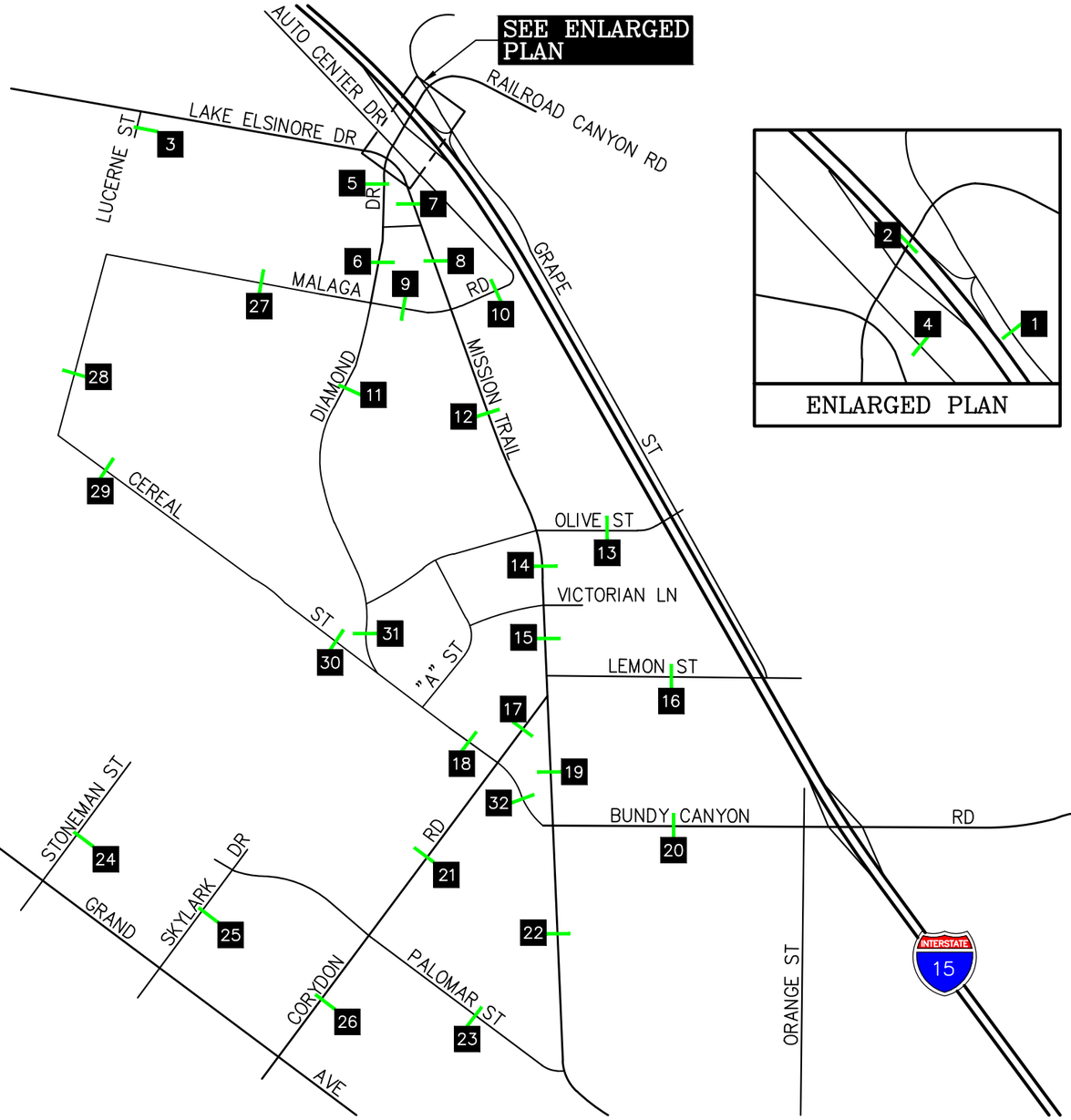
Figures 4-1 and ***4-2*** present the daily Phase I Project traffic volumes for the Weekday and Saturday traffic conditions, respectively. The traffic volume assignments presented reflect the modeled traffic from the LETAM.

4.1.2 *Year 2040 East Lake Specific Plan Project Buildout Assignment*

Figures 4-3 and ***4-4*** present the daily Project Buildout traffic volumes for the Weekday and Saturday traffic conditions, respectively. The traffic volume assignments presented reflect the modeled traffic from the LETAM.

4.2 Vehicle Miles Travelled (VMT)

The Vehicle Miles Travelled (VMT) analysis utilizes the Lake Elsinore Transportation and Analysis Model (LETAM), which was the model used to forecast future traffic levels in this traffic study. A select zone run was conducted for TAZs that are included within the East Lake Specific Plan Project Buildout. Daily Project Buildout trips from each of these TAZs on the model roadway network were obtained using the select zone assignment output from the model run. These trips were multiplied with the individual length of each respective roadway link in the model to develop the Project's daily VMT. Based on these calculations, the Project Buildout's daily VMT is forecasted to be 473,696 miles.



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	572	17	2,103
2	5,944	18	5,673
3	0	19	620
4	4	20	4,309
5	8,242	21	3,607
6	9,125	22	1,141
7	2,579	23	494
8	2,851	24	0
9	621	25	0
10	6	26	1,222
11	739	27	9,184
12	2,771	28	8,379
13	227	29	5,358
14	2,232	30	5,358
15	2,249	31	785
16	309	32	4,997

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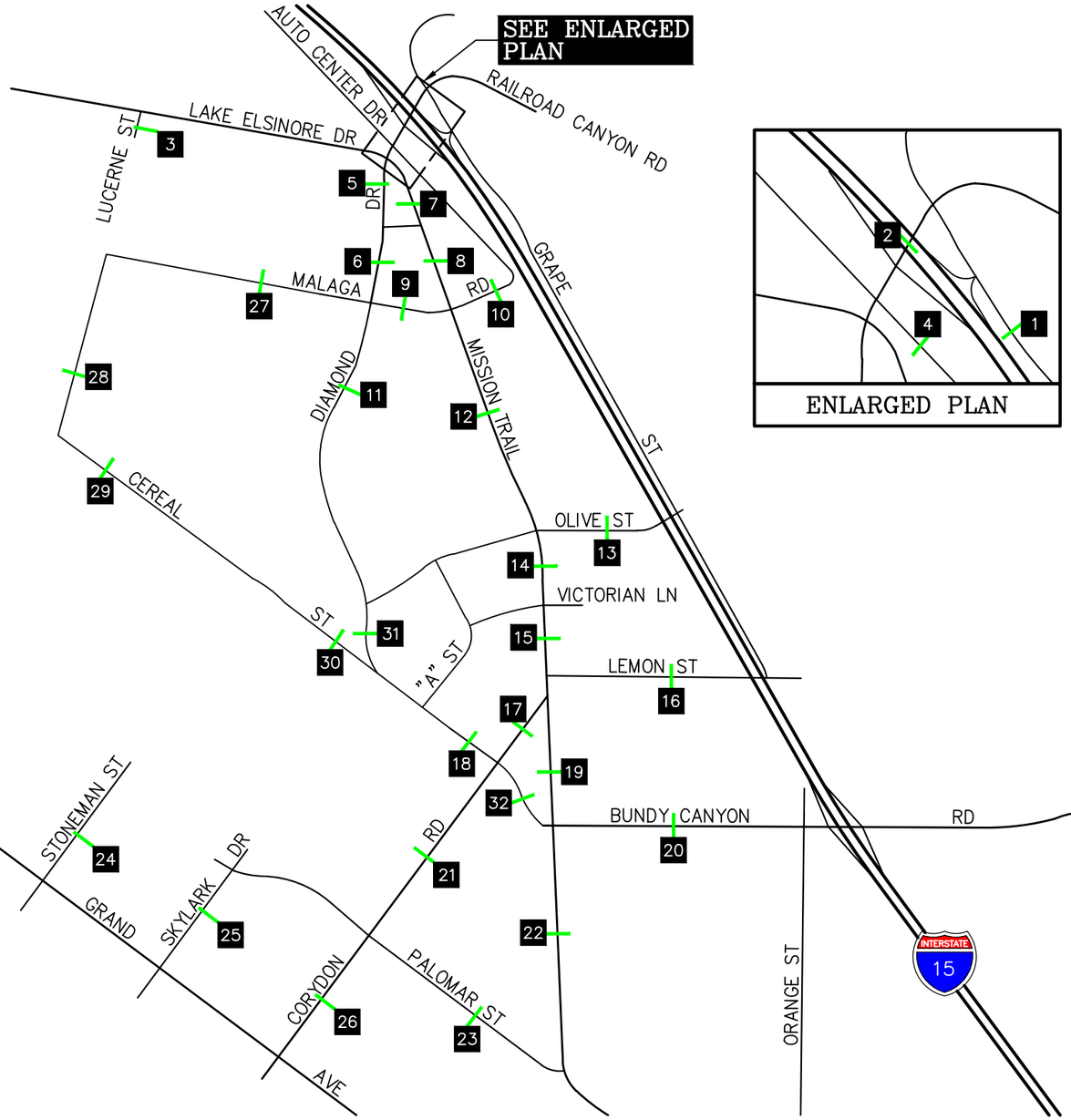
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 4-1

ELSP PROJECT PHASE I
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	617	17	2,267
2	6,407	18	6,115
3	0	19	668
4	4	20	4,645
5	8,884	21	3,888
6	9,836	22	1,230
7	2,780	23	532
8	3,073	24	0
9	669	25	0
10	6	26	1,317
11	797	27	9,899
12	2,987	28	9,032
13	245	29	5,775
14	2,406	30	5,775
15	2,424	31	846
16	333	32	5,386

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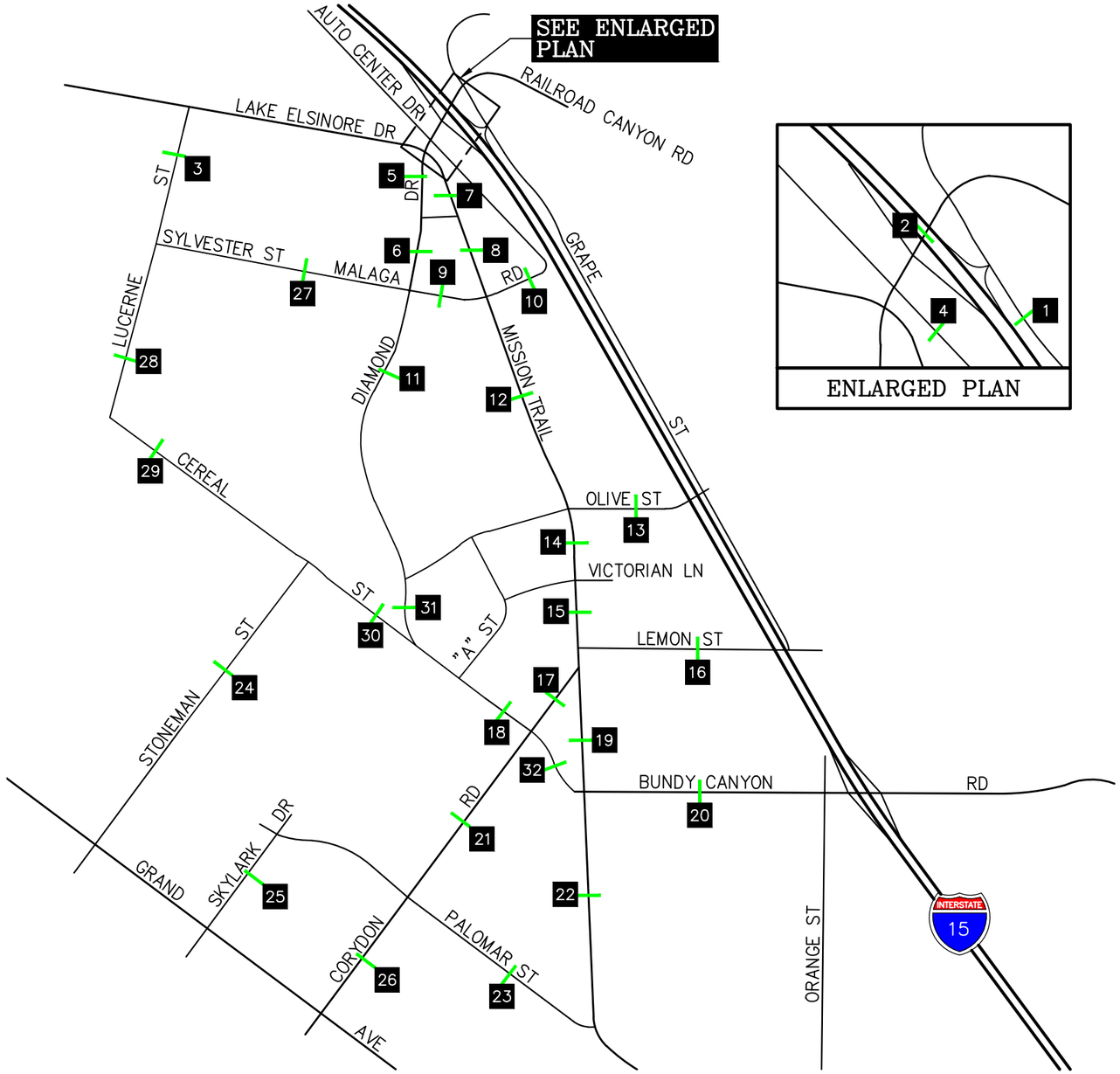
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 4-2

ELSP PROJECT PHASE I
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	985	17	3,325
2	7,489	18	5,140
3	11,172	19	1,043
4	4	20	4,833
5	1,714	21	5,281
6	2,151	22	1,381
7	4,913	23	1,000
8	4,272	24	1,576
9	348	25	0
10	2	26	911
11	1,740	27	800
12	4,548	28	10,891
13	368	29	5,714
14	3,850	30	4,547
15	3,930	31	895
16	455	32	5,402

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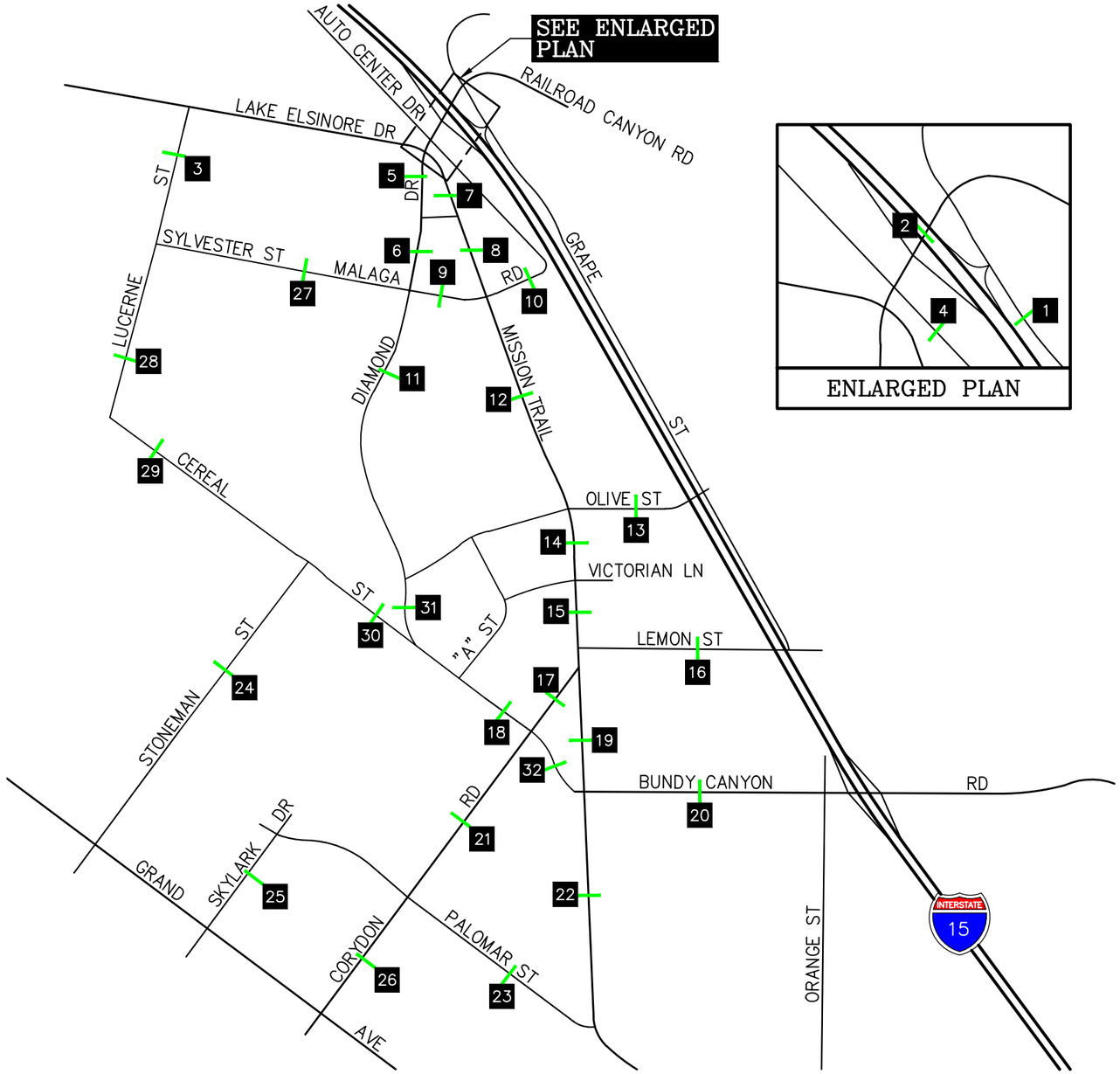
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 4-3

ELSP PROJECT BUILDOUT
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	1,062	17	3,584
2	8,072	18	5,540
3	12,042	19	1,124
4	4	20	5,209
5	1,847	21	5,692
6	2,319	22	1,489
7	5,296	23	1,078
8	4,605	24	1,699
9	375	25	0
10	2	26	982
11	1,876	27	862
12	4,902	28	11,739
13	397	29	6,159
14	4,150	30	4,901
15	4,236	31	965
16	490	32	5,823

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N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 4-4

ELSP PROJECT BUILDOUT
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

5.0 FUTURE TRAFFIC CONDITIONS

5.1 Travel Demand Model Methodology

Traffic volume forecasts for all scenarios, excluding Existing traffic conditions which come directly from the traffic count data, were obtained by LSA Associates, Inc. through utilization of the City of Lake Elsinore Transportation and Analysis Model (LETAM). Model runs have been conducted for the Base (Year 2007) and Future (Year 2035) scenarios. To incorporate the proposed ELSP, some roadway network and socio-economic data (SED) modifications were made in LETAM to appropriately incorporate the proposed project. These changes were made in both the base and future model scenarios. Additionally, both the base and future year model networks do not include some of the major roadway segments within and in the near vicinity of the project area. These roadways have been added into the model network to reflect appropriate assignment of traffic on to the study area roadway system. The internal and external roadway networks change between Existing, Year 2022 and Year 2040 traffic conditions, resulting in noticeable volume differences between the different horizon years.

5.1.1 *Volume Adjustment*

Using the City of Lake Elsinore General Plan Circulation Element with selected CIP projects added as well as the Railroad Canyon Road Interchange Project (implemented only under scenarios in which the respective project is anticipated to be complete), projected traffic volumes were obtained for each intersection and roadway segment. The model produces peak period and off-peak period volumes (6 AM – 9 AM, 9 AM – 3 PM, 3 PM – 7 PM and 7 PM – 6 AM). Before converting the model peak period link volumes to future turning movement volumes for analysis, the model volumes must be reviewed and adjusted.

The first step is to obtain the approach and departure volumes from the model for each leg of the analyzed intersections. The next step converts the model approach and departure volumes from AM and PM peak period volumes to peak hour volumes. The AM peak hour volumes are calculated by multiplying the AM peak period volumes by 38%. Similarly, the PM peak hour volumes are calculated by multiplying the PM period volumes by 28%. These are the percentages of vehicles that are assumed to occur in the peak hour of the peak period. These factors are derived from SCAG research. It should be noted that the LETAM does not include any model data for Saturday Midday peak hour volumes or Saturday Daily volumes. Engineering judgement was used in order to convert the Weekday Midday and Weekday Daily model runs into Saturday Midday and Saturday Daily volumes, respectively. The next step is to determine the difference between the base year (2007) peak hour model volumes and the Buildout (Year 2035) peak hour model volumes. This "difference" represents the projected growth in traffic on each approach to the Buildout of the General Plan using the SCAG 2035 CTP model. This approach was slightly adjusted for each study scenario in order to develop accurate volumes.

5.1.2 *B-turn Methodology*

The base year turning movement counts (Year 2016) 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.

Finally, it should be noted that all provided volumes are from a Citywide General Plan level model that was not specifically developed for analysis of individual intersection turning movements. Therefore each projected volume was reviewed carefully and adjustments were applied as warranted based on local conditions and professional judgment.

5.2 Existing With East Lake Specific Plan Project Buildout Traffic Volumes

The first step is to determine the growth or decline for each approach and departure for every study intersection and roadway segment between the "2007 Base Model" and the "2007 Base Model with the ELSP Buildout Network (No Project)." This difference is then grown by 2% per year (20% total) and applied to the 2017 existing counts and post-processed in order to determine the shift in existing volumes if the ELSP Buildout Network is included. The "ELSP Project Buildout Select Zone Model" was then added on top of the shifted existing volumes and post-processed to derive the Existing With ELSP Project Buildout traffic volumes. This process was conducted for Weekday AM, Weekday PM and Saturday Midday peak hours as well as Weekday Daily and Saturday Daily.

Figures 5-1, 5-2 and ***5-3*** present the anticipated Weekday AM/PM and Saturday Midday peak hour Existing With ELSP Project Buildout traffic volumes, respectively, at the thirty (30) key study intersections. ***Figures 5-4*** and ***5-5*** present the Weekday and Saturday daily Existing With ELSP Project Buildout daily traffic volumes, respectively, for the thirty-one (31) key study roadway segments (roadway segment 32 does not exist under Existing With ELSP Project Buildout traffic conditions).

5.3 Year 2022 Cumulative Traffic Conditions

5.3.1 *Cumulative Projects Traffic*

The City of Lake Elsinore and the City of Wildomar identified eight (8) large cumulative projects within the Project study area that needed to be confirmed were included in the model runs prior to developing traffic volumes. ***Table 5-1*** presents the jurisdiction, description and development totals of these eight (8) cumulative projects and ***Figure 5-6*** presents their respective locations on a map. Furthermore, due to its proximity to the East Lake Specific Plan and the large amount of volume it

attracts during the Midday peak hour on a Saturday, the Diamond Sports Center project was manually assigned to the Year 2022 traffic volumes and Year 2040 traffic volumes after these volumes were post-processed from the model runs.

5.4 Year 2022 Without East Lake Specific Plan Project Phase I Traffic Volumes

The first step is to determine the growth or decline for each approach and departure for every study intersection and roadway segment between the "2007 Base Model" and the "2007 Base Model with the ELSP Project Phase I Network and Year 2022 External Network (No Project)." This difference is then grown by 2% per year (20% total) and applied to the 2017 existing counts and post-processed in order to determine the shift in existing volumes if the ELSP Project Phase I Network as well as the Year 2022 external network changes are included. The growth between the "2007 Base Model" and the "2035 Base Model with the ELSP Project Phase I Network and Year 2022 External Network (No Project)" was then added on top of the shifted existing volumes in order to determine the Year 2022 Without ELSP Project Phase I traffic volumes. It should be noted that the growth was interpolated between 2007 and 2035 in order to derive Year 2022 volumes. This process was conducted for Weekday AM, Weekday PM and Saturday Midday peak hours as well as Weekday Daily and Saturday Daily.

Figures 5-7, 5-8 and ***5-9*** present the anticipated Weekday AM/PM and Saturday Midday peak hour Year 2022 Without ELSP Project Phase I traffic volumes, respectively, at the twenty-eight (28)) key study intersections (intersections 29 and 30 do not exist under Year 2022 traffic conditions). ***Figures 5-10*** and ***5-11*** present the Weekday and Saturday daily Year 2022 Without ELSP Project Phase I daily traffic volumes, respectively, for the thirty-two (32) key study roadway segments.

5.5 Year 2022 With East Lake Specific Plan Project Phase I Traffic Volumes

The "ELSP Project Phase I" trips were then added on top of the Year 2022 Without ELSP Project Phase I traffic volumes and post-processed to derive the Year 2022 With ELSP Project Phase I traffic volumes. This process was conducted for Weekday AM, Weekday PM and Saturday Midday peak hours as well as Weekday Daily and Saturday Daily.

Figures 5-12, 5-13 and ***5-14*** present the anticipated Weekday AM/PM and Saturday Midday peak hour Year 2022 With ELSP Project Phase I traffic volumes, respectively, at the twenty-eight (28) key study intersections (intersections 29 and 30 do not exist under Year 2022 traffic conditions). ***Figures 5-15*** and ***5-16*** present the Weekday and Saturday daily Year 2022 With ELSP Project Phase I daily traffic volumes, respectively, for the thirty-two (32) key study roadway segments.

5.6 Year 2040 With Adopted Specific Plan Traffic Volumes

The first step is to determine the growth or decline for each approach and departure for every study intersection and roadway segment between the "2007 Base Model" and the "2007 Base Model with the Adopted Specific Plan Network and Year 2040 External Network (No Project)." This difference is then grown by 2% per year (20% total) and applied to the 2017 existing counts and post-processed in order to determine the shift in existing volumes if the Adopted Specific Plan Network as well as the Year 2040 external network changes are included. The growth between the "2007 Base Model"

and the "2035 Base Model with the Adopted Specific Plan Network and Year 2040 External Network (No Project)" was then added on top of the shifted existing volumes in order to determine the Year 2040 Without Adopted Specific Plan traffic volumes. It should be noted that the growth was increased further in order to derive Year 2040 volumes. The "Adopted Specific Plan Select Zone Model" was then added on top of the Year 2040 Without Adopted Specific Plan traffic volumes and post-processed to derive the Year 2040 With Adopted Specific Plan traffic volumes. This process was conducted for Weekday AM, Weekday PM and Saturday Midday peak hours as well as Weekday Daily and Saturday Daily.

Figures 5-17, 5-18 and ***5-19*** present the anticipated Weekday AM/PM and Saturday Midday peak hour Year 2040 With Adopted Specific Plan traffic volumes, respectively, at the thirty (30) key study intersections. ***Figures 5-20*** and ***5-21*** present the Weekday and Saturday daily Year 2040 With Adopted Specific Plan daily traffic volumes, respectively, for the thirty-two (32) key study roadway segments.

5.7 Year 2040 With East Lake Specific Plan Project Buildout Traffic Volumes

The first step is to determine the growth or decline for each approach and departure for every study intersection and roadway segment between the "2007 Base Model" and the "2007 Base Model with the ELSP Project Buildout Network and Year 2040 External Network (No Project)." This difference is then grown by 2% per year (20% total) and applied to the 2017 existing counts and post-processed in order to determine the shift in existing volumes if the ELSP Project Buildout Network as well as the Year 2040 external network changes are included. The growth between the "2007 Base Model" and the "2035 Base Model with the ELSP Project Buildout Network and Year 2040 External Network (No Project)" was then added on top of the shifted existing volumes in order to determine the Year 2040 Without ELSP Project Buildout traffic volumes. It should be noted that the growth was increased further in order to derive Year 2040 volumes. The "ELSP Project Buildout Select Zone Model" was then added on top of the Year 2040 Without ELSP Project Buildout traffic volumes and post-processed to derive the Year 2040 With ELSP Project Buildout traffic volumes. This process was conducted for Weekday AM, Weekday PM and Saturday Midday peak hours as well as Weekday Daily and Saturday Daily.

Figures 5-22, 5-23 and ***5-24*** present the anticipated Weekday AM/PM and Saturday Midday peak hour Year 2040 With ELSP Project Buildout traffic volumes, respectively, at the thirty (30) key study intersections. ***Figures 5-25*** and ***5-26*** present the Weekday and Saturday daily Year 2040 With ELSP Project Buildout daily traffic volumes, respectively, for the thirty-two (32) key study roadway segments.

Copies of the traffic model post-processing worksheets and a detailed description of the traffic volume derivation are contained in ***Appendix C***. Please note that the post-processing methodology utilized in this report is consistent with SCAG requirements.

TABLE 5-1

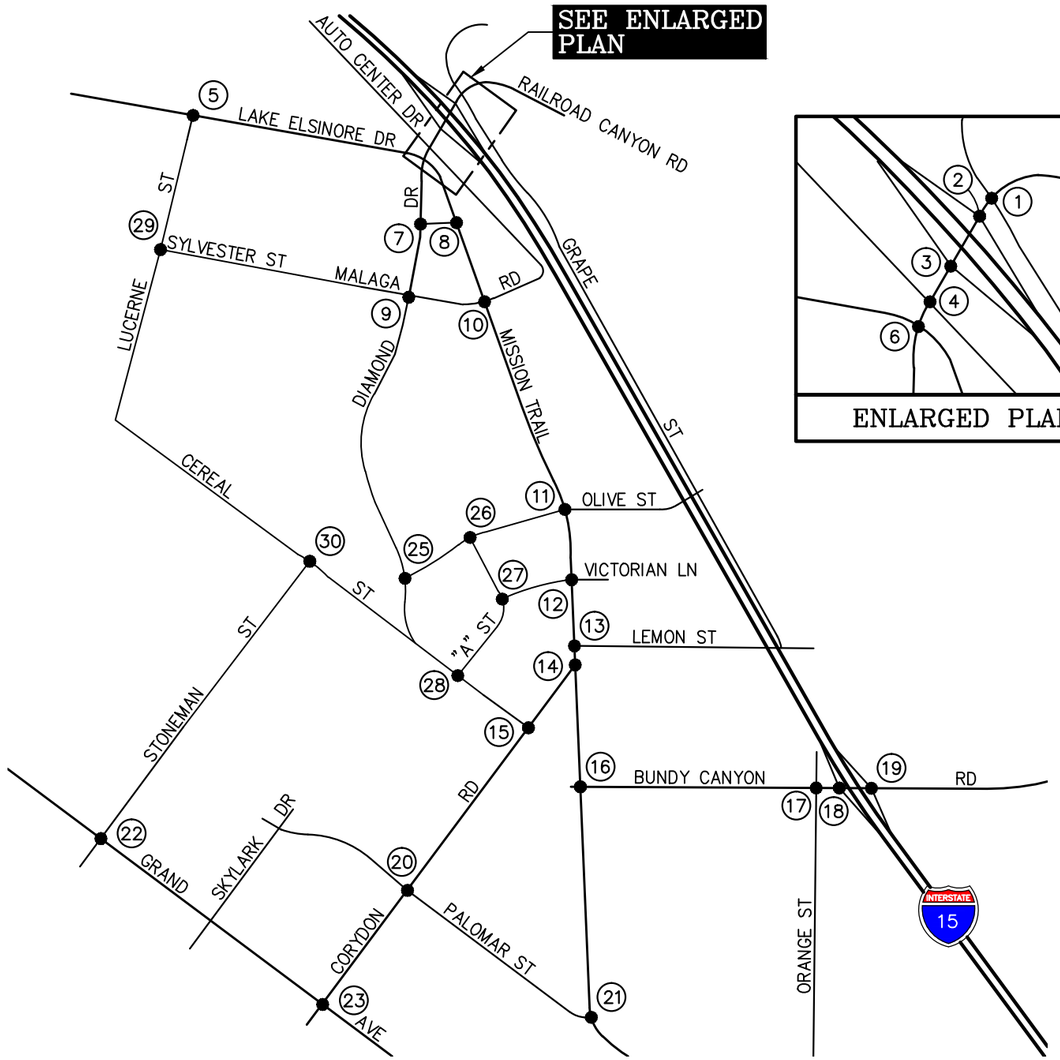
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS – PHASE I AND BUILDOUT DEVELOPMENT TOTALS[12]

No.	Cumulative Project	Location	Year 2022 (Phase I)	Year 2040 (Buildout)	Development Total
1.	Diamond Sports Center Project	NWC of Pete Lehr Drive and Diamond Drive	600,000 SF Indoor Sports Center	No Additional Development between Year 2022 and 2040	600,000 SF Indoor Sports Center
2.	South Shore Phase I & II, Spyglass Ranch	North of Camino Del Norte and Main Street	No Development Anticipated to be Complete by Year 2022	1,600 Single-Family DU	1,600 Single-Family DU
3.	Canyon Hills	Along Railroad Canyon Road, between I-15 and I-215	456 DU Condominiums	No Additional Development between Year 2022 and 2040	456 Condominium DU
4.	Alberhill Villages	South of the I-15 freeway and west of Lake Street	No Development Anticipated to be Complete by Year 2022	50% Assumed to be Complete	8,024 Residential DU, 1,335,800 SF Retail/Medical/Office, 974,500 SF Retail/Service Uses, 6,000 Student University, 850 Student Elementary School, 39.6 Acre Park, 45.9 Acre Sports Park
5.	North Tuscany	North of Summerhill Drive and Ponte Russo	No Development Anticipated to be Complete by Year 2022	807 Single-Family DU	807 Single-Family DU
6.	Terracina Residential	South of Collier Avenue and east of Terra Cotta Road	452 Single-Family Residential	No Additional Development between Year 2022 and 2040	452 Single-Family Residential
7.	Artisan Alley	NEC of Diamond Drive and Malaga Road	95,000 SF Commercial, 1 live-work DU, 130-Room Hotel	No Additional Development between Year 2022 and 2040	95,000 SF Commercial, 1 live-work DU, 130-Room Hotel
8.	Spring Meadow Ranch	SEC of Sunset Avenue and Keller Road	No Development Anticipated to be Complete by Year 2022	1,192 Single-Family DU	1,192 Single-Family DU

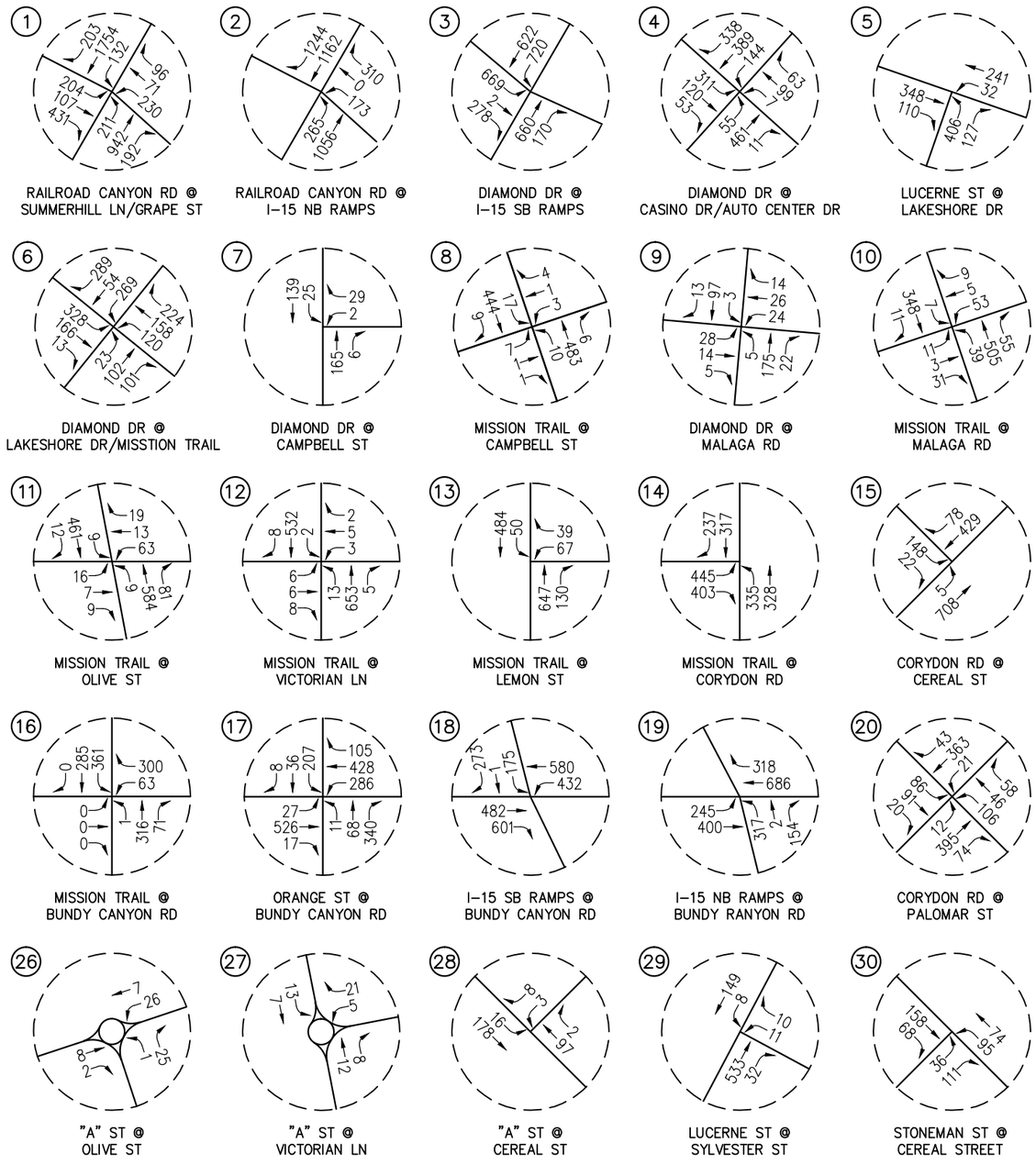
Notes:

- SF = Square-Feet
- DU = Dwelling Units

[12] Source: *City of Lake Elsinore.*



ENLARGED PLAN



LINSCOTT LAW & GREENSPAN engineers

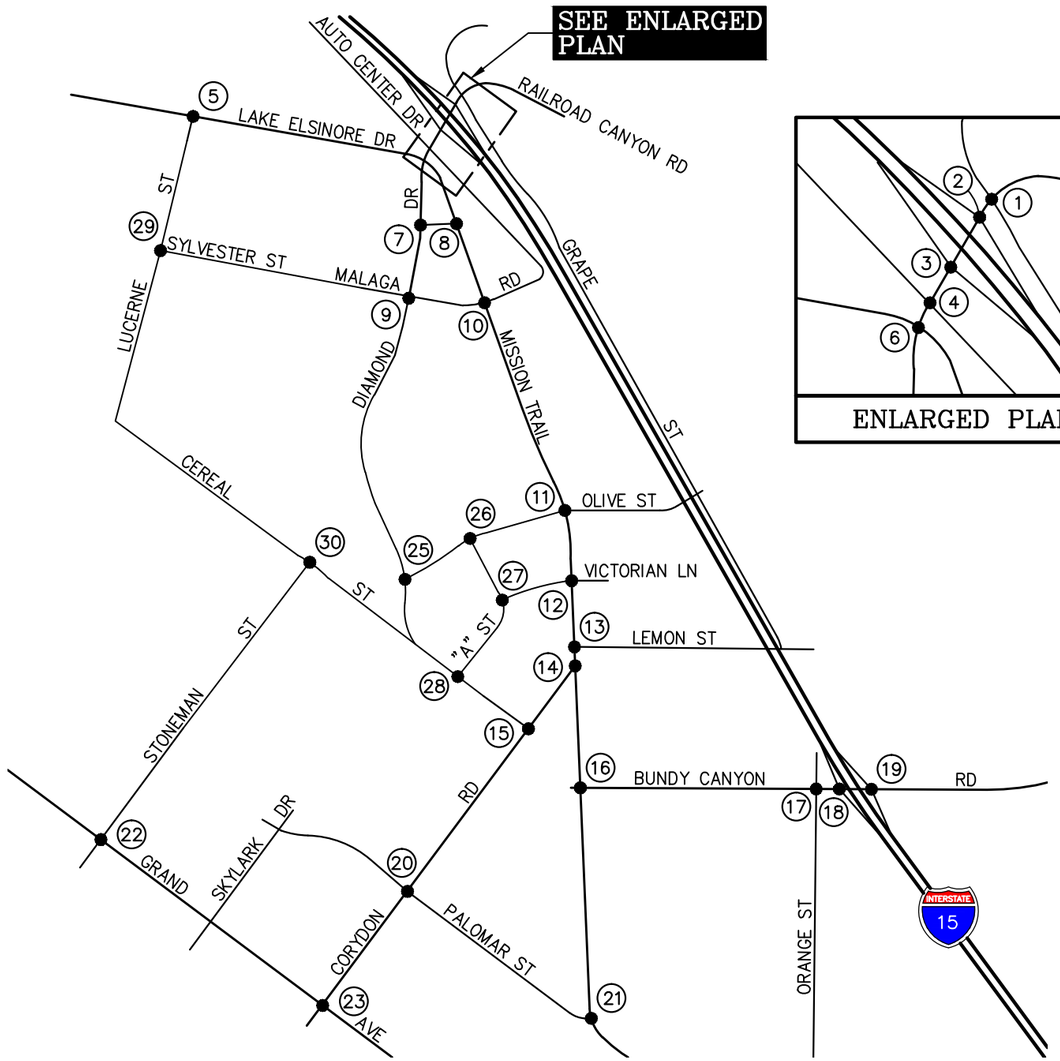
N NO SCALE

KEY
(#) = STUDY INTERSECTION

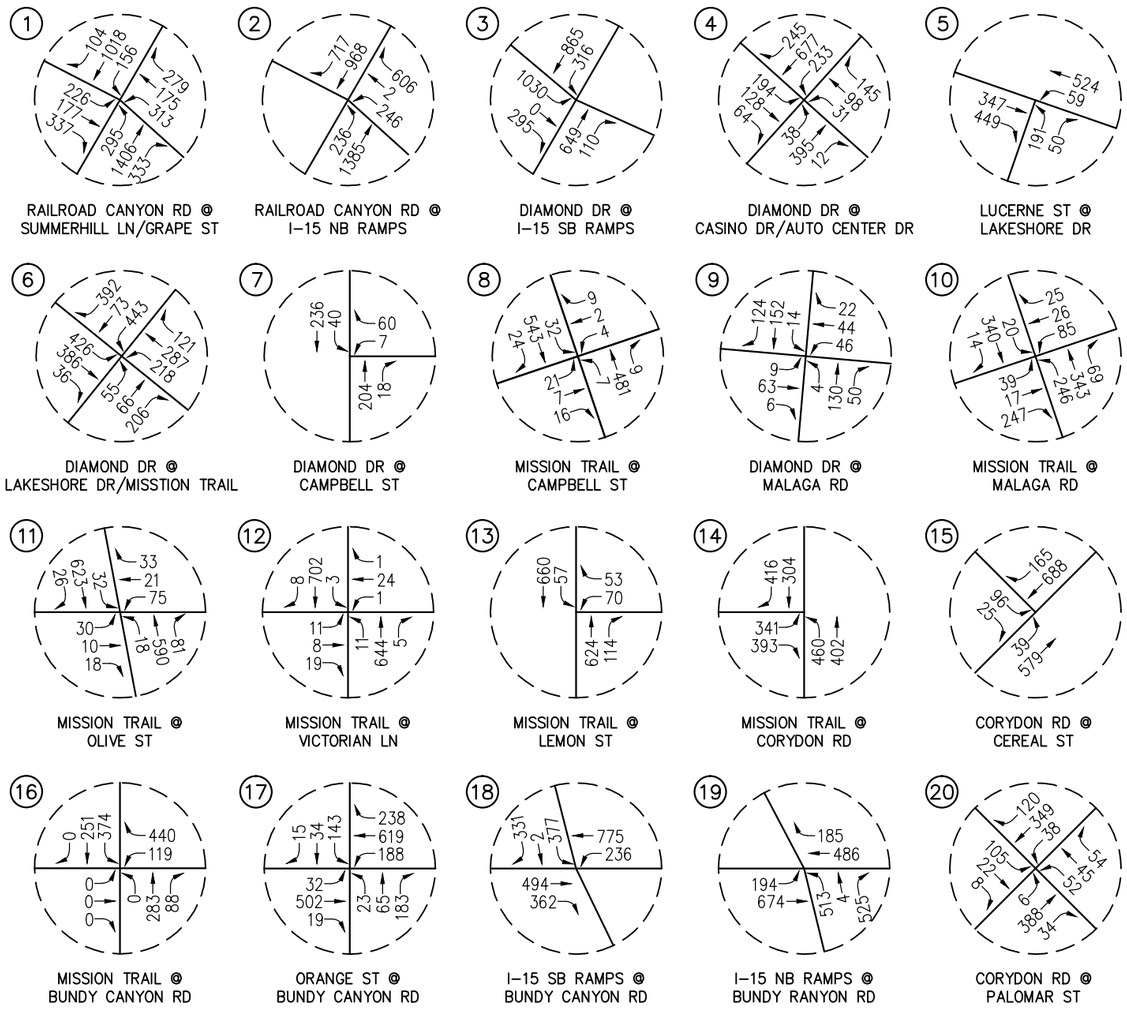
FIGURE 5–1

EXISTING WITH ELSP PROJECT BUILDOUT
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

n:\3500\2143544 – east lake specific plan eir, lake elsinore\6 – dwg\3544f5–1.dwg LDP 10:27:48 02–01–2017 besa



ENLARGED PLAN



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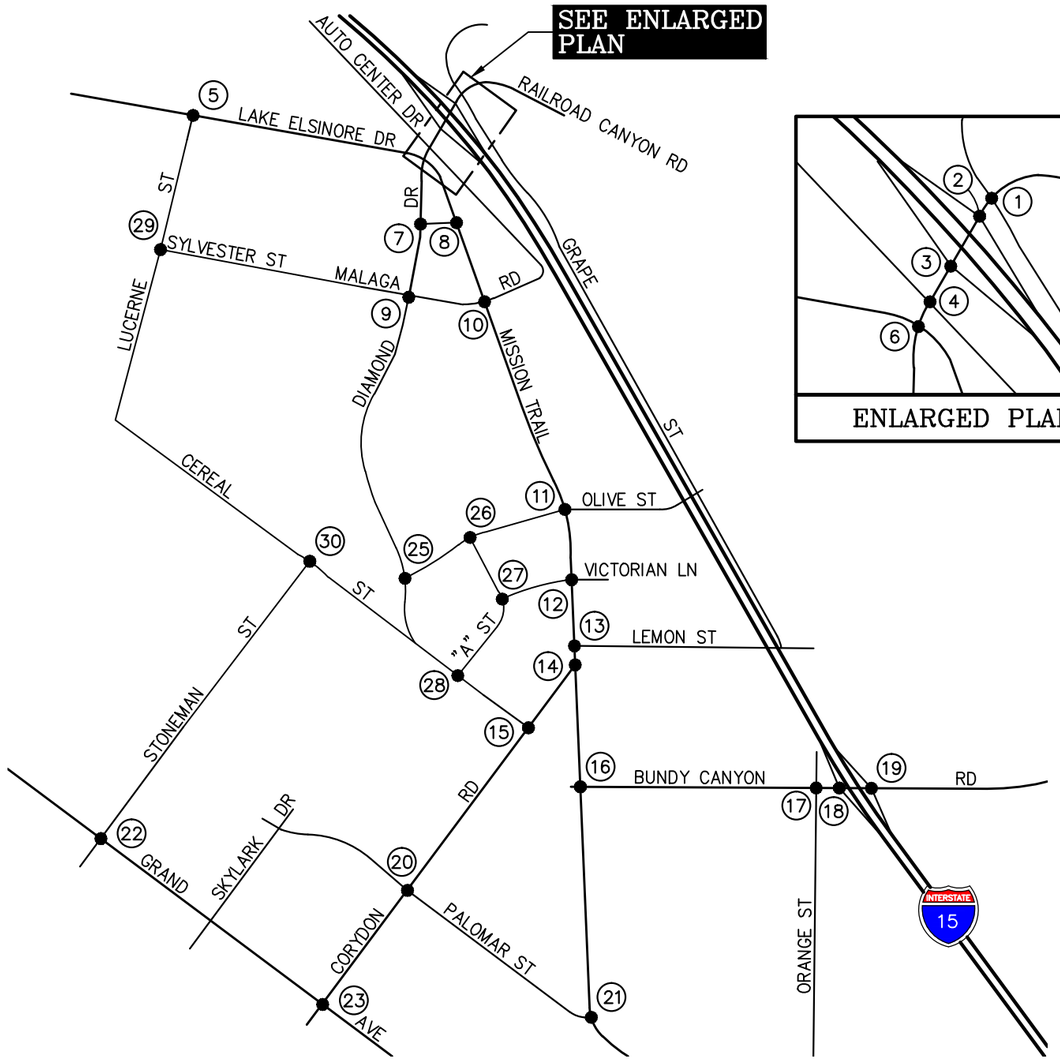
N NO SCALE

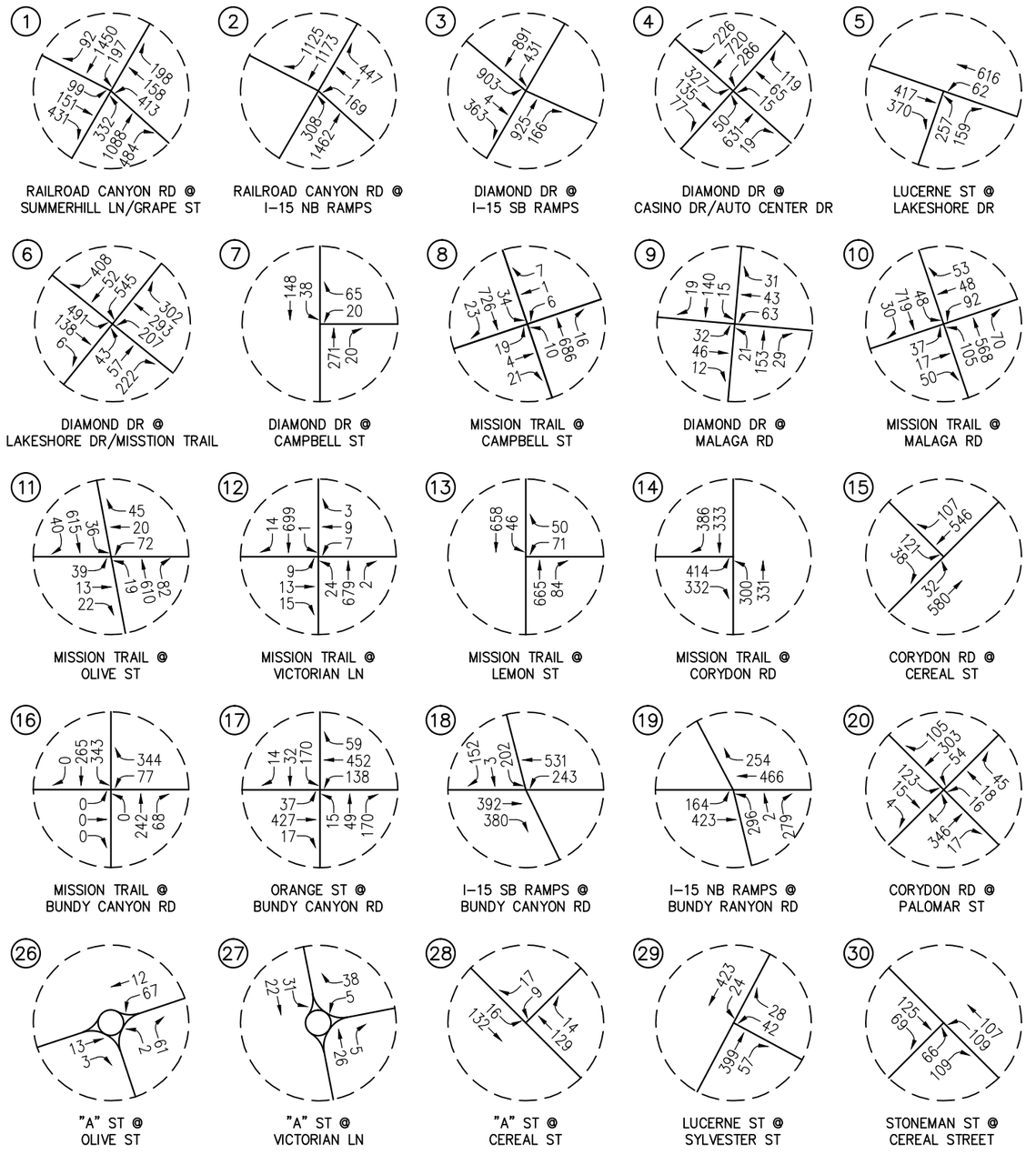
KEY
(#) = STUDY INTERSECTION

FIGURE 5–2

EXISTING WITH ELSP PROJECT BUILDOUT
WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



KEY

(#) = STUDY INTERSECTION

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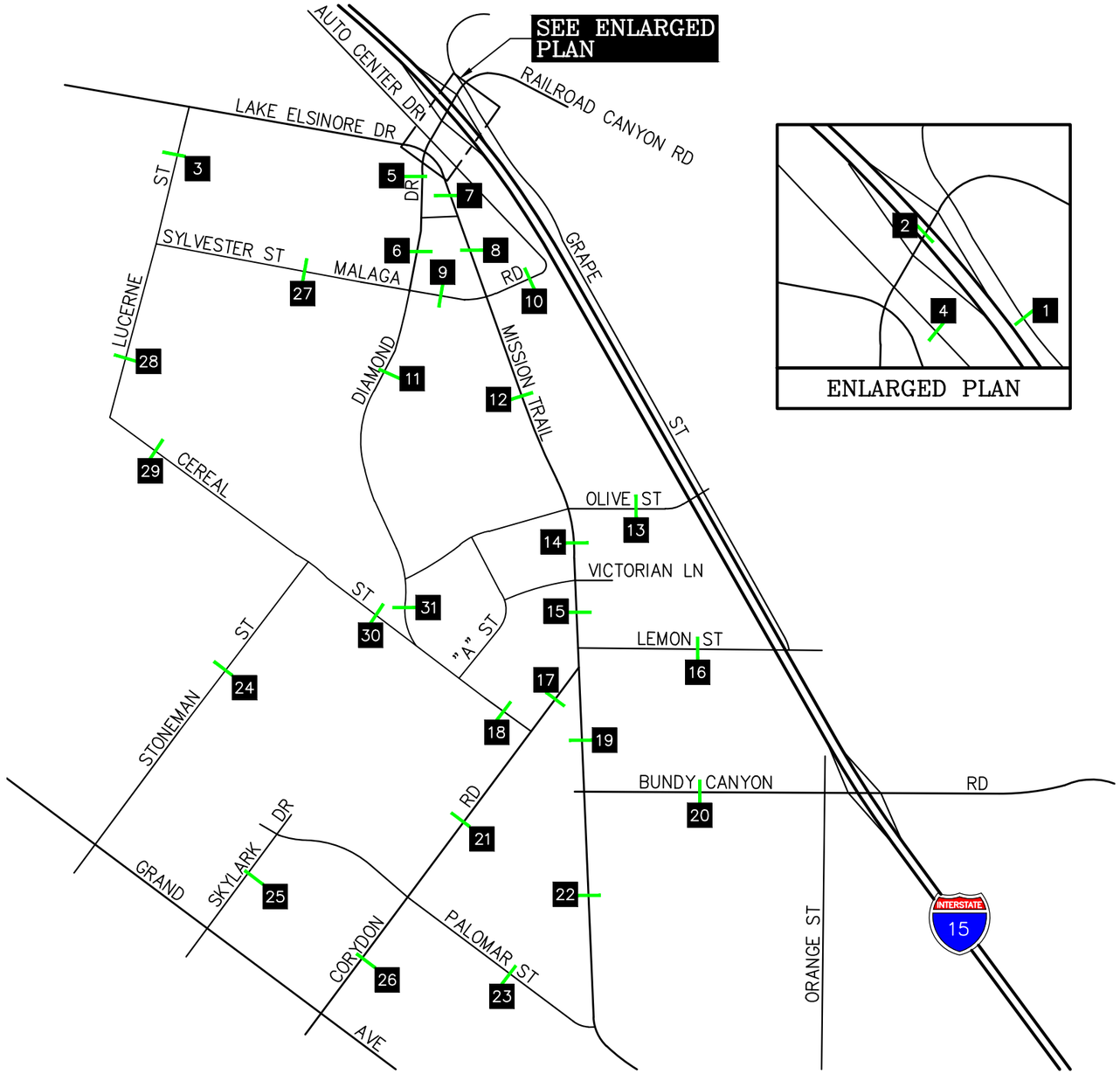
N NO SCALE

FIGURE 5-3

EXISTING WITH ELSP PROJECT BUILDOUT
SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

n:\3500\2143544 - east lake specific plan eir, lake elsinore\6 - dwg\3544f5-3.dwg LDP 10:49:2 02-01-2017 besa



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	20,406	17	19,795
2	32,190	18	3,389
3	8,967	19	17,102
4	5,814	20	11,968
5	6,716	21	16,075
6	5,131	22	8,749
7	19,240	23	3,220
8	16,743	24	2,536
9	2,003	25	474
10	2,740	26	9,559
11	2,007	27	1,635
12	17,201	28	9,814
13	2,248	29	4,399
14	17,068	30	5,316
15	17,891	31	1,662
16	3,497	32	DOES NOT EXIST

LINSCOTT LAW & GREENSPAN engineers

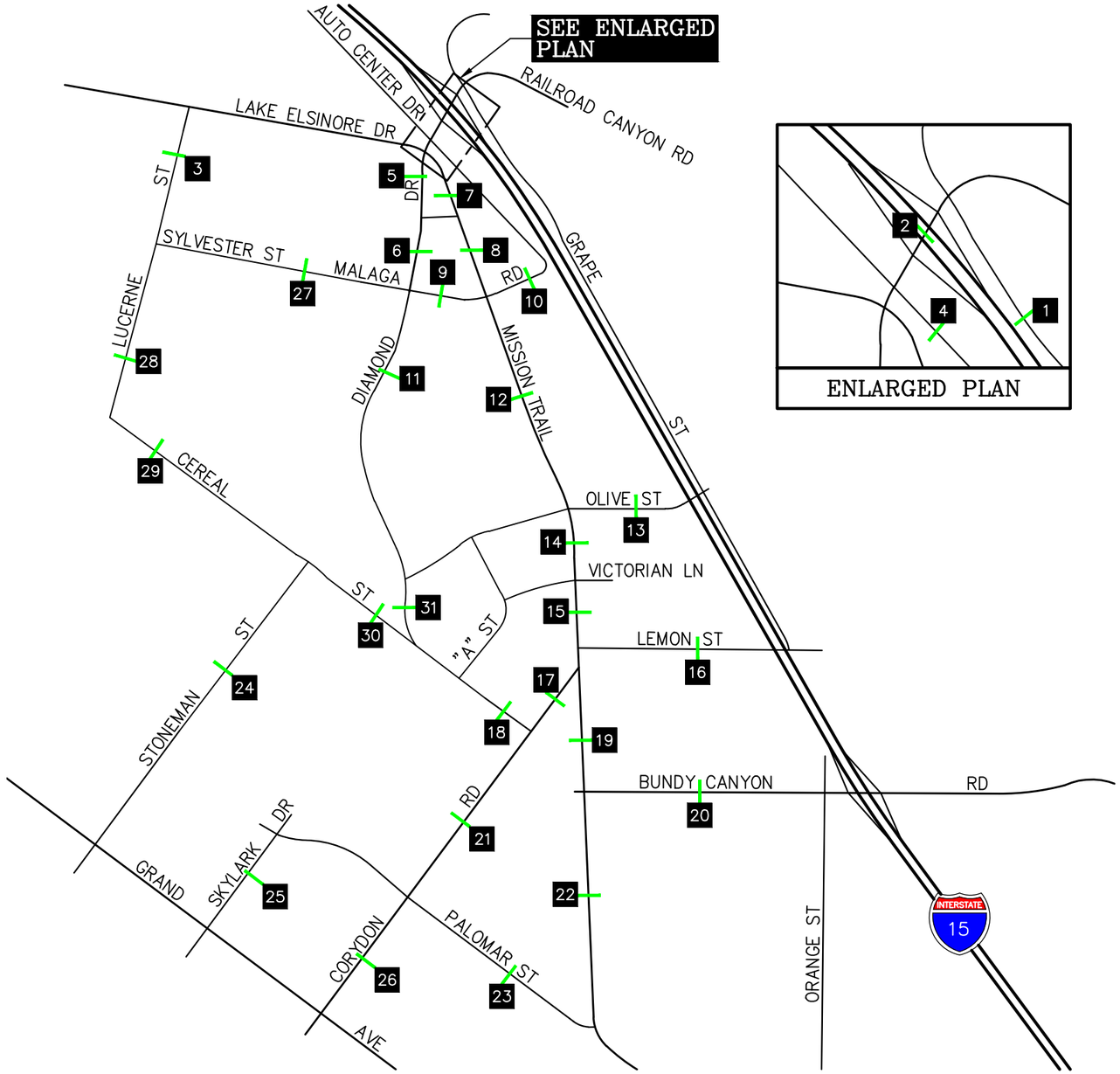
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-4

EXISTING WITH ELSP PROJECT BUILDOUT
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	24,173	17	19,227
2	33,186	18	3,890
3	9,571	19	15,932
4	5,423	20	11,584
5	6,519	21	15,571
6	5,293	22	7,747
7	17,775	23	2,954
8	17,550	24	2,556
9	2,089	25	511
10	2,934	26	8,940
11	1,848	27	1,759
12	17,184	28	10,506
13	2,191	29	4,670
14	16,616	30	5,426
15	17,467	31	1,574
16	3,293	32	DOES NOT EXIST

n:\3500\2143544 - east lake specific plan eir, lake elsinore\6 - dwg\3544f5-5.dwg LDP 08:43:54 02-01-2017 mempin

LINSCOTT LAW & GREENSPAN engineers

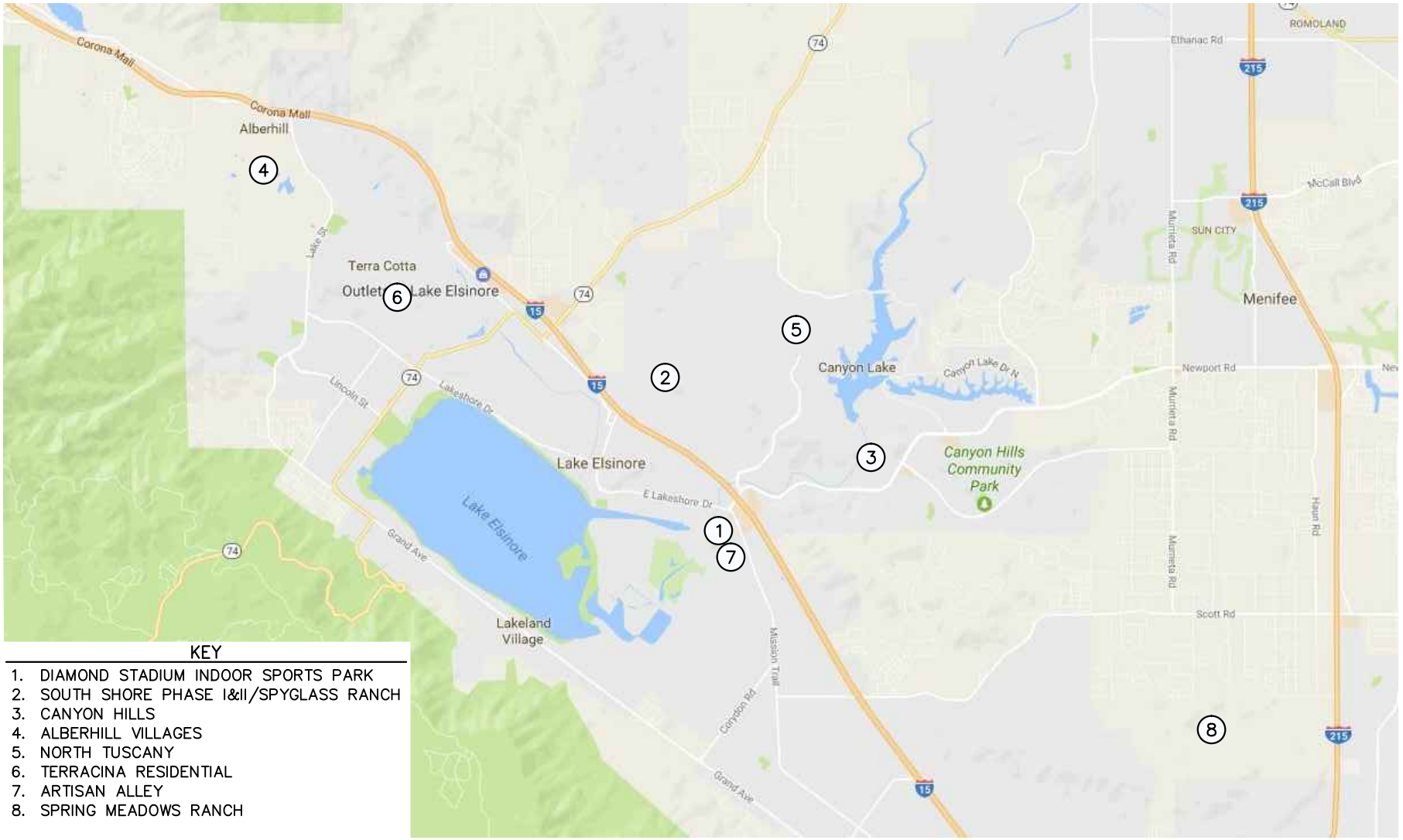
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-5

EXISTING WITH ELSP PROJECT BUILDOUT
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



KEY

1. DIAMOND STADIUM INDOOR SPORTS PARK
2. SOUTH SHORE PHASE I&II/SPYGLASS RANCH
3. CANYON HILLS
4. ALBERHILL VILLAGES
5. NORTH TUSCANY
6. TERRACINA RESIDENTIAL
7. ARTISAN ALLEY
8. SPRING MEADOWS RANCH

n:\3500\2143544 - east lake specific plan eir, lake elsinore\6 - dwg\3544f5-6.dwg LDP 11:48:59 02-01-2017 mempin

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

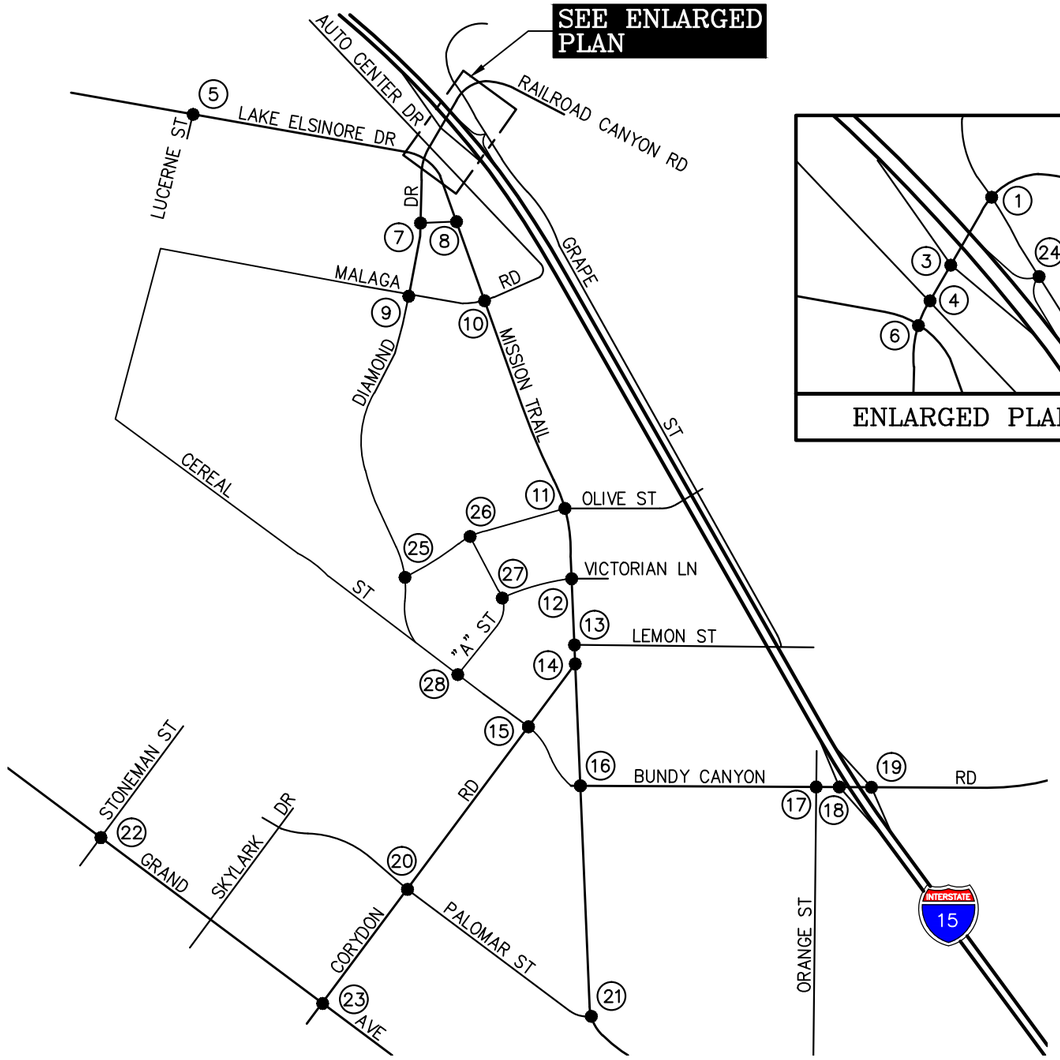
KEY

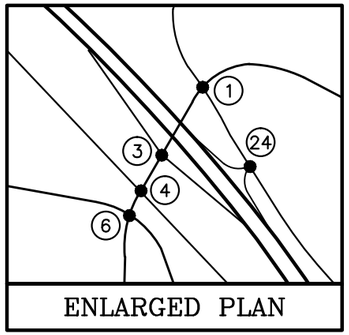
(#) = CUMULATIVE PROJECT LOCATION

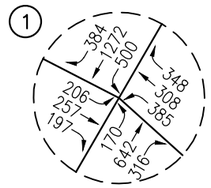
FIGURE 5-6

LOCATION OF CUMULATIVE PROJECTS

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE





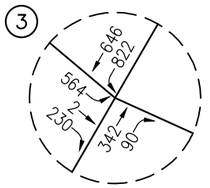


RAILROAD CANYON RD @
SUMMERHILL LN/GRAPE ST

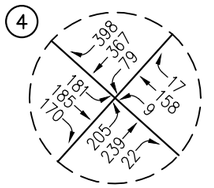
2

DOES NOT EXIST

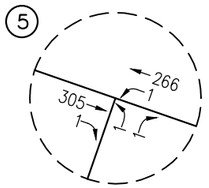
RAILROAD CANYON RD @
I-15 NB RAMPS



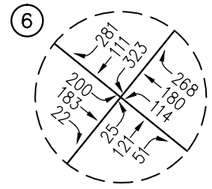
DIAMOND DR @
I-15 SB RAMPS



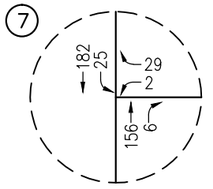
DIAMOND DR @
CASINO DR/AUTO CENTER DR



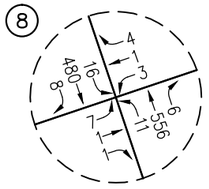
LUCERNE ST @
LAKESHORE DR



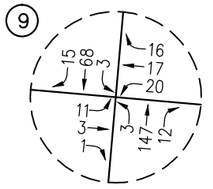
DIAMOND DR @
LAKESHORE DR/MISSTION TRAIL



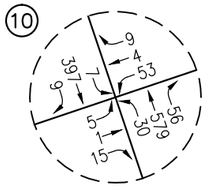
DIAMOND DR @
CAMPBELL ST



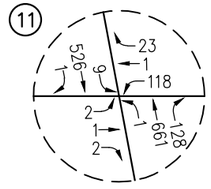
MISSION TRAIL @
CAMPBELL ST



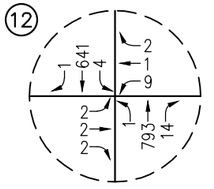
DIAMOND DR @
MALAGA RD



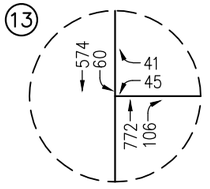
MISSION TRAIL @
MALAGA RD



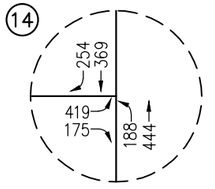
MISSION TRAIL @
OLIVE ST



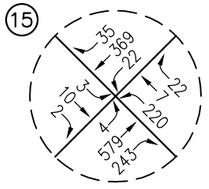
MISSION TRAIL @
VICTORIAN LN



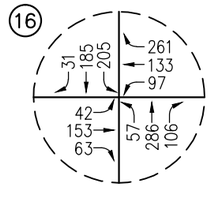
MISSION TRAIL @
LEMON ST



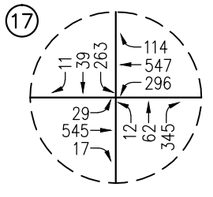
MISSION TRAIL @
CORYDON RD



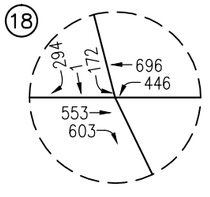
CORYDON RD @
CEREAL ST



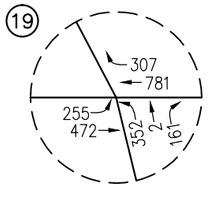
MISSION TRAIL @
BUNDY CANYON RD



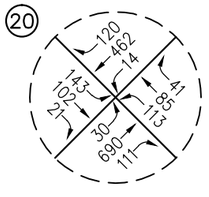
ORANGE ST @
BUNDY CANYON RD



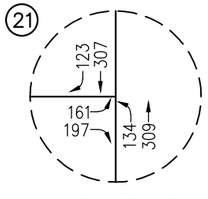
I-15 SB RAMPS @
BUNDY CANYON RD



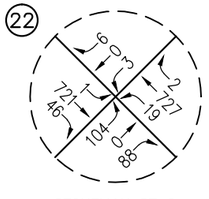
I-15 NB RAMPS @
BUNDY RANYON RD



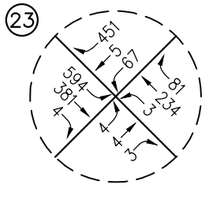
CORYDON RD @
PALOMAR ST



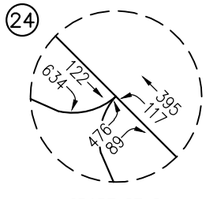
MISSION TRAIL @
PALOMAR ST



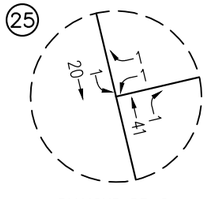
STONEMAN ST @
GRAND AVE



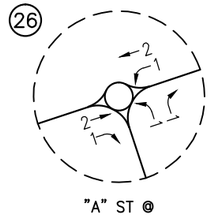
CORYDON RD @
GRAND AVE



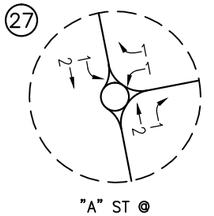
GRAPE ST @
I-15 NB RAMPS



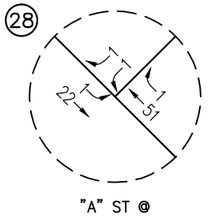
DIAMOND DR @
OLIVE ST



"A" ST @
OLIVE ST



"A" ST @
VICTORIAN LN



"A" ST @
CEREAL ST

29

DOES NOT EXIST

LUCERNE ST @
SYLVESTER ST

30

DOES NOT EXIST

STONEMAN ST @
CEREAL STREET

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

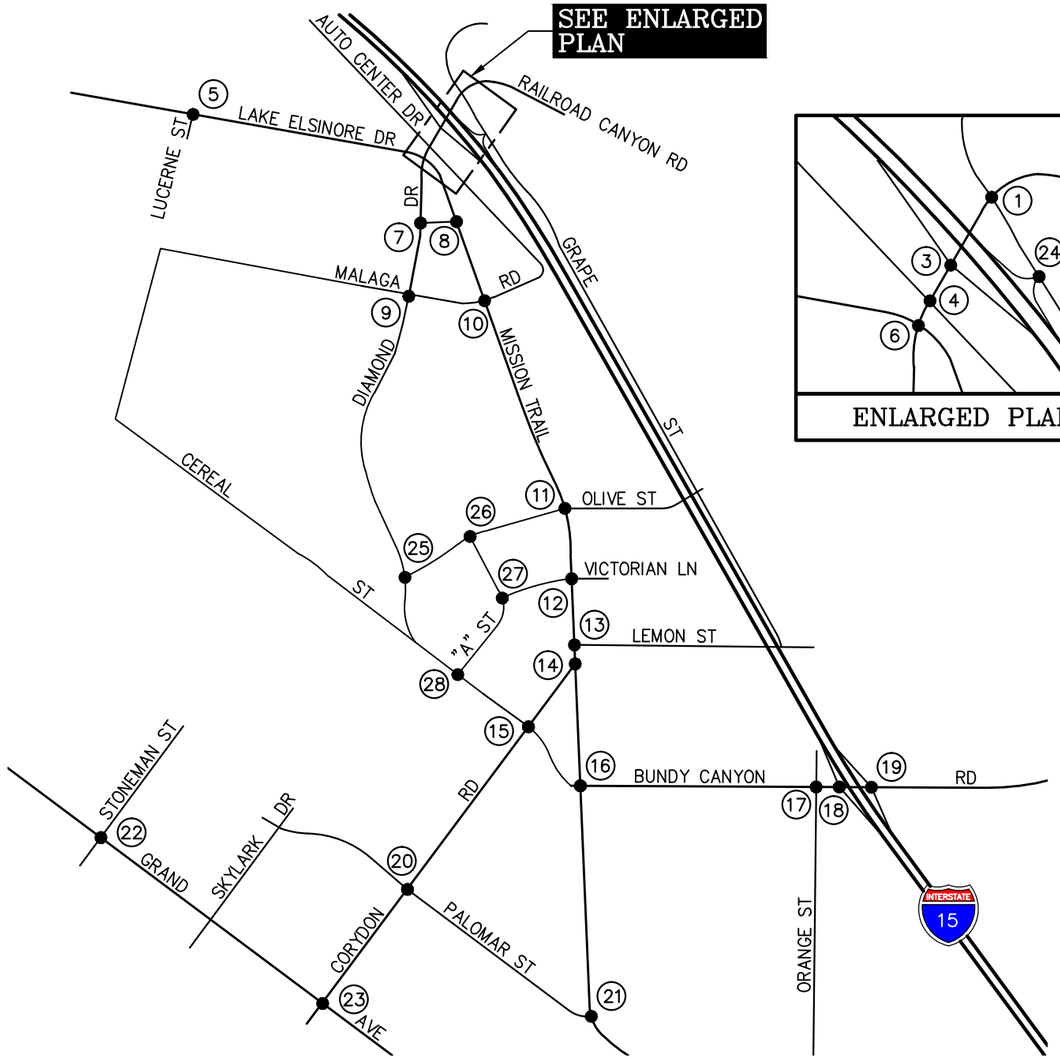
KEY

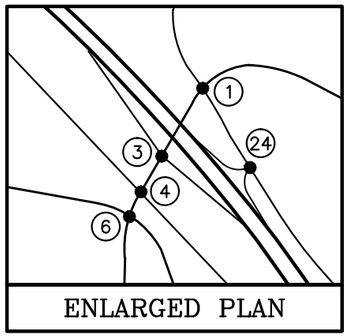
(#) = STUDY INTERSECTION

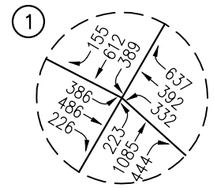
FIGURE 5-7

YEAR 2022 WITHOUT ELSP PROJECT PHASE I
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

n:\3500\2143544 - east lake specific plan eir, lake elsinore\6 - dwg\3544f5-7.dwg LDP 10:58:08 02-01-2017 besa



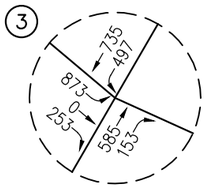




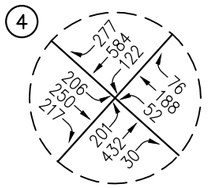
1 RAILROAD CANYON RD @ SUMMERHILL LN/GRAPE ST

2 DOES NOT EXIST

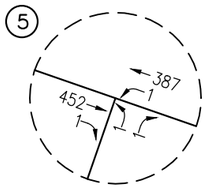
RAILROAD CANYON RD @ I–15 NB RAMPS



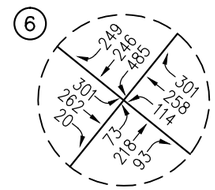
3 DIAMOND DR @ I–15 SB RAMPS



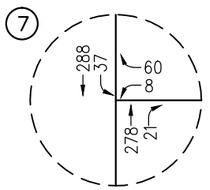
4 DIAMOND DR @ CASINO DR/AUTO CENTER DR



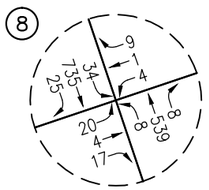
5 LUCERNE ST @ LAKESHORE DR



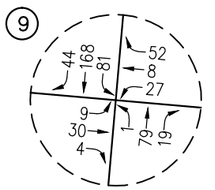
6 DIAMOND DR @ LAKESHORE DR/MISSTION TRAIL



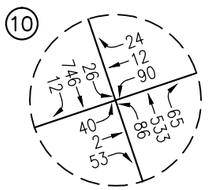
7 DIAMOND DR @ CAMPBELL ST



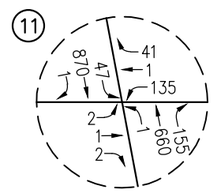
8 MISSION TRAIL @ CAMPBELL ST



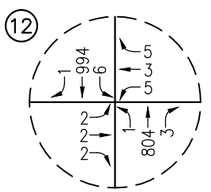
9 DIAMOND DR @ MALAGA RD



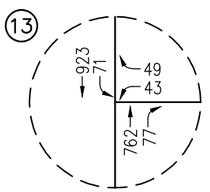
10 MISSION TRAIL @ MALAGA RD



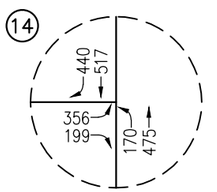
11 MISSION TRAIL @ OLIVE ST



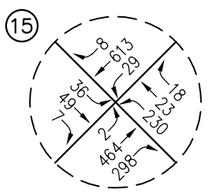
12 MISSION TRAIL @ VICTORIAN LN



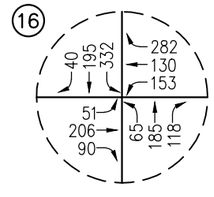
13 MISSION TRAIL @ LEMON ST



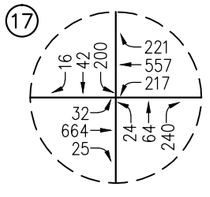
14 MISSION TRAIL @ CORYDON RD



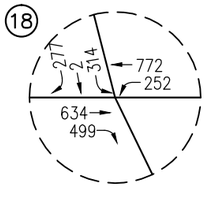
15 CORYDON RD @ CEREAL ST



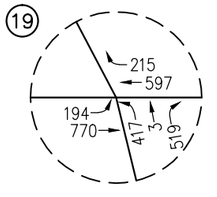
16 MISSION TRAIL @ BUNDY CANYON RD



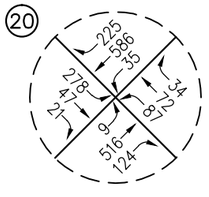
17 ORANGE ST @ BUNDY CANYON RD



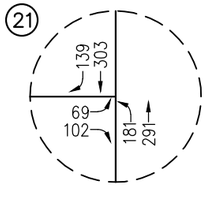
18 I–15 SB RAMPS @ BUNDY CANYON RD



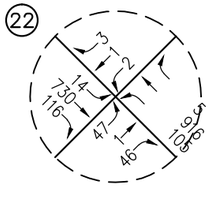
19 I–15 NB RAMPS @ BUNDY RANYON RD



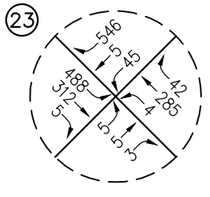
20 CORYDON RD @ PALOMAR ST



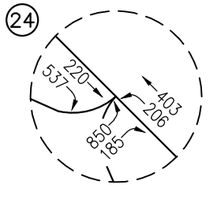
21 MISSION TRAIL @ PALOMAR ST



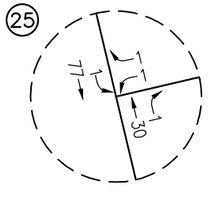
22 STONEMAN ST @ GRAND AVE



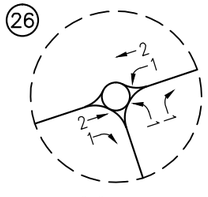
23 CORYDON RD @ GRAND AVE



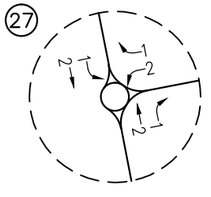
24 GRAPE ST @ I–15 NB RAMPS



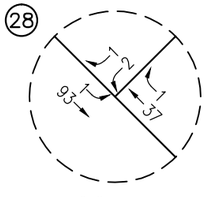
25 DIAMOND DR @ OLIVE ST



26 "A" ST @ OLIVE ST



27 "A" ST @ VICTORIAN LN



28 "A" ST @ CEREAL ST

29 DOES NOT EXIST

LUCERNE ST @ SYLVESTER ST

30 DOES NOT EXIST

STONEMAN ST @ CEREAL STREET

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

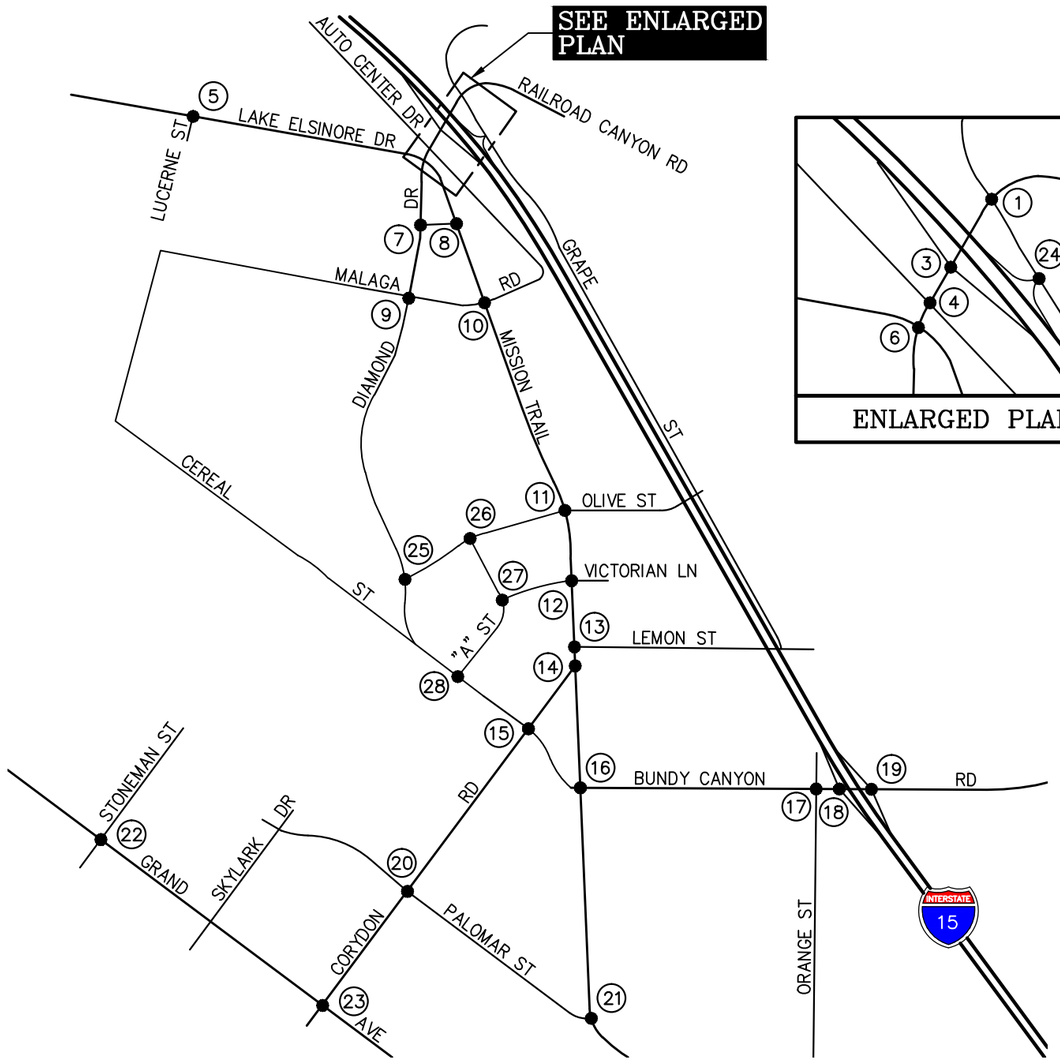
KEY

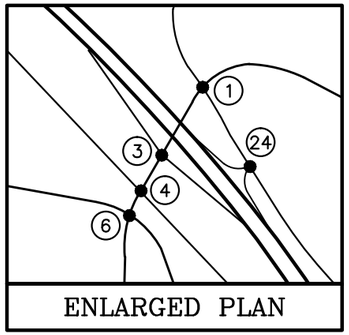
(#) = STUDY INTERSECTION

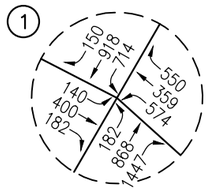
FIGURE 5–8

YEAR 2022 WITHOUT ELSP PROJECT PHASE I
WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

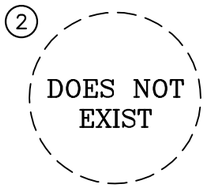
n:\3500\2143544 – east lake specific plan eir, lake elsinore\6 – dwg\3544f5–8.dwg LDP 11:06:52 02–01–2017 besa



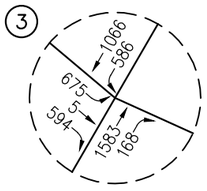




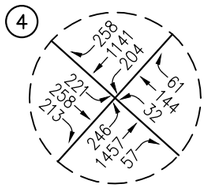
1 RAILROAD CANYON RD @ SUMMERHILL LN/GRAPE ST



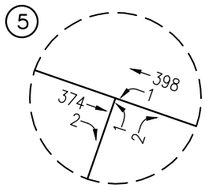
2 RAILROAD CANYON RD @ I–15 NB RAMPS



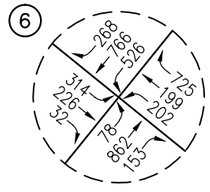
3 DIAMOND DR @ I–15 SB RAMPS



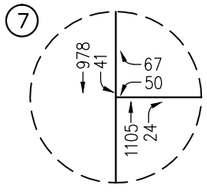
4 DIAMOND DR @ CASINO DR/AUTO CENTER DR



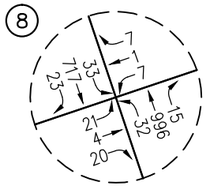
5 LUCERNE ST @ LAKESHORE DR



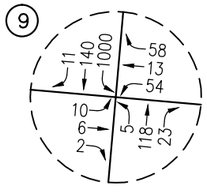
6 DIAMOND DR @ LAKESHORE DR/MISSTION TRAIL



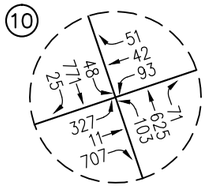
7 DIAMOND DR @ CAMPBELL ST



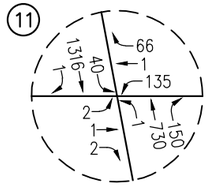
8 MISSION TRAIL @ CAMPBELL ST



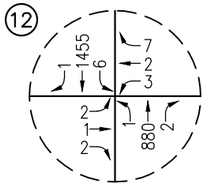
9 DIAMOND DR @ MALAGA RD



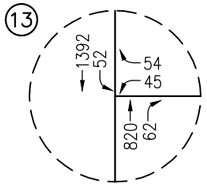
10 MISSION TRAIL @ MALAGA RD



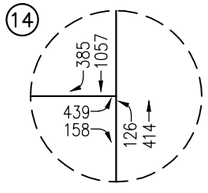
11 MISSION TRAIL @ OLIVE ST



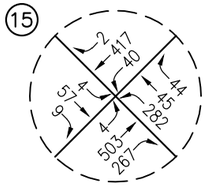
12 MISSION TRAIL @ VICTORIAN LN



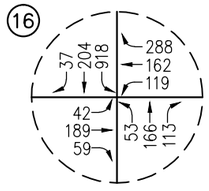
13 MISSION TRAIL @ LEMON ST



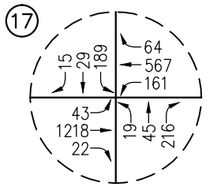
14 MISSION TRAIL @ CORYDON RD



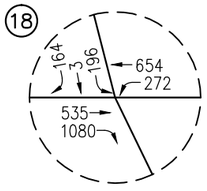
15 CORYDON RD @ CEREAL ST



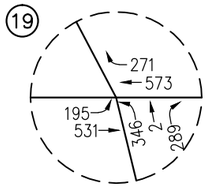
16 MISSION TRAIL @ BUNDY CANYON RD



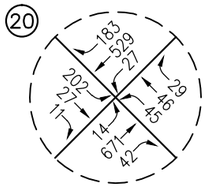
17 ORANGE ST @ BUNDY CANYON RD



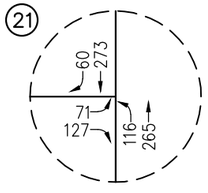
18 I–15 SB RAMPS @ BUNDY CANYON RD



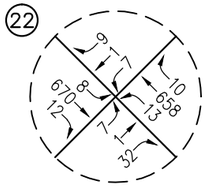
19 I–15 NB RAMPS @ BUNDY RANYON RD



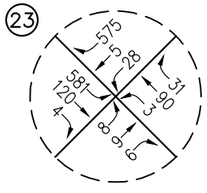
20 CORYDON RD @ PALOMAR ST



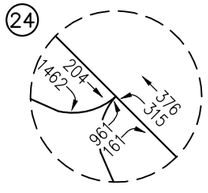
21 MISSION TRAIL @ PALOMAR ST



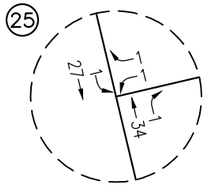
22 STONEMAN ST @ GRAND AVE



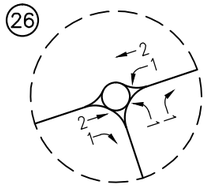
23 CORYDON RD @ GRAND AVE



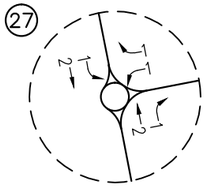
24 GRAPE ST @ I–15 NB RAMPS



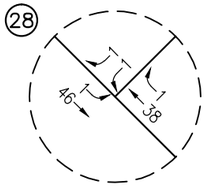
25 DIAMOND DR @ OLIVE ST



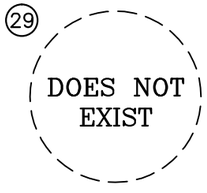
26 "A" ST @ OLIVE ST



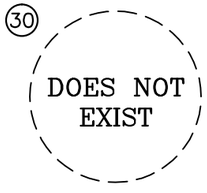
27 "A" ST @ VICTORIAN LN



28 "A" ST @ CEREAL ST



29 LUCERNE ST @ SYLVESTER ST



30 STONEMAN ST @ CEREAL STREET

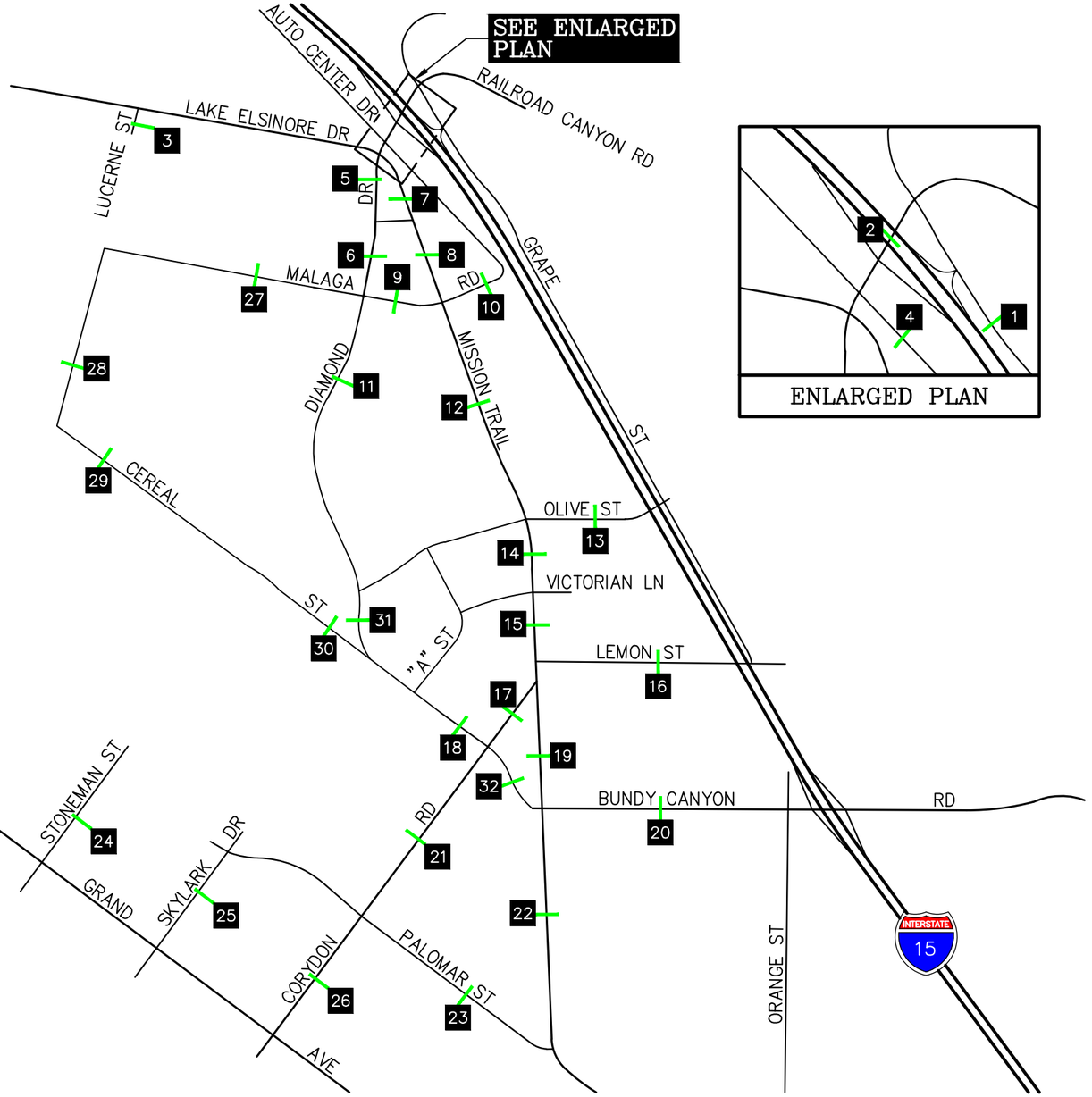
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
(#) = STUDY INTERSECTION

FIGURE 5–9

YEAR 2022 WITHOUT ELSP PROJECT PHASE I
SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	34,739	17	15,074
2	17,049	18	918
3	71	19	14,576
4	7,289	20	15,480
5	9,129	21	20,308
6	4,826	22	9,350
7	20,603	23	3,843
8	18,252	24	760
9	2,210	25	2,063
10	2,745	26	16,459
11	1,039	27	710
12	18,750	28	244
13	3,766	29	244
14	21,028	30	244
15	21,207	31	812
16	3,033	32	6,702

LINSCOTT LAW & GREENSPAN engineers

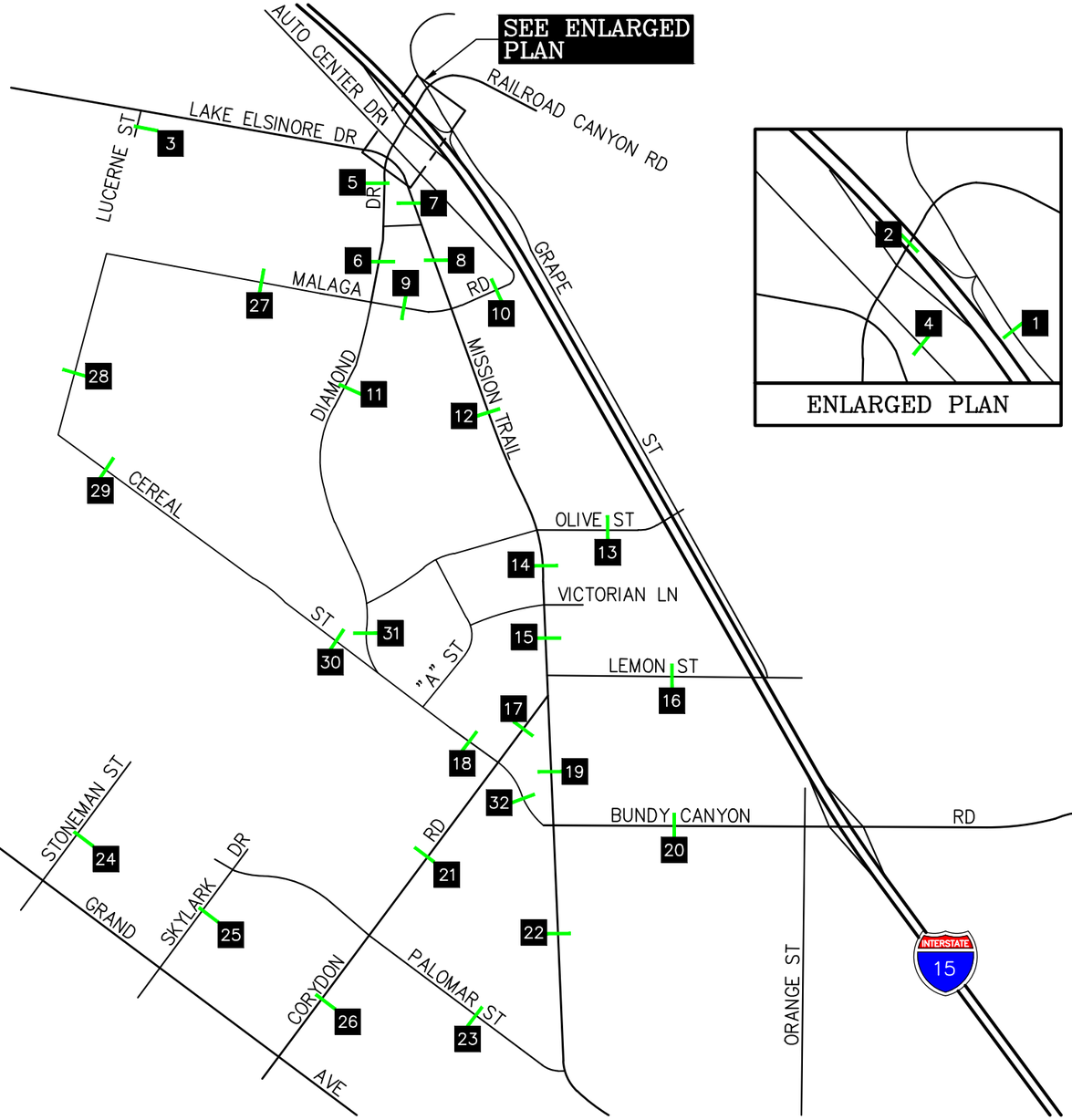
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-10

YEAR 2022 WITHOUT ELSP PROJECT PHASE I
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	41,285	17	13,872
2	19,699	18	1,466
3	63	19	12,848
4	6,800	20	14,390
5	10,998	21	18,803
6	4,887	22	8,006
7	17,976	23	3,274
8	18,889	24	724
9	2,213	25	2,222
10	2,940	26	15,265
11	927	27	672
12	18,063	28	231
13	3,639	29	231
14	19,862	30	231
15	20,020	31	769
16	2,803	32	6,348

LINSCOTT LAW & GREENSPAN engineers

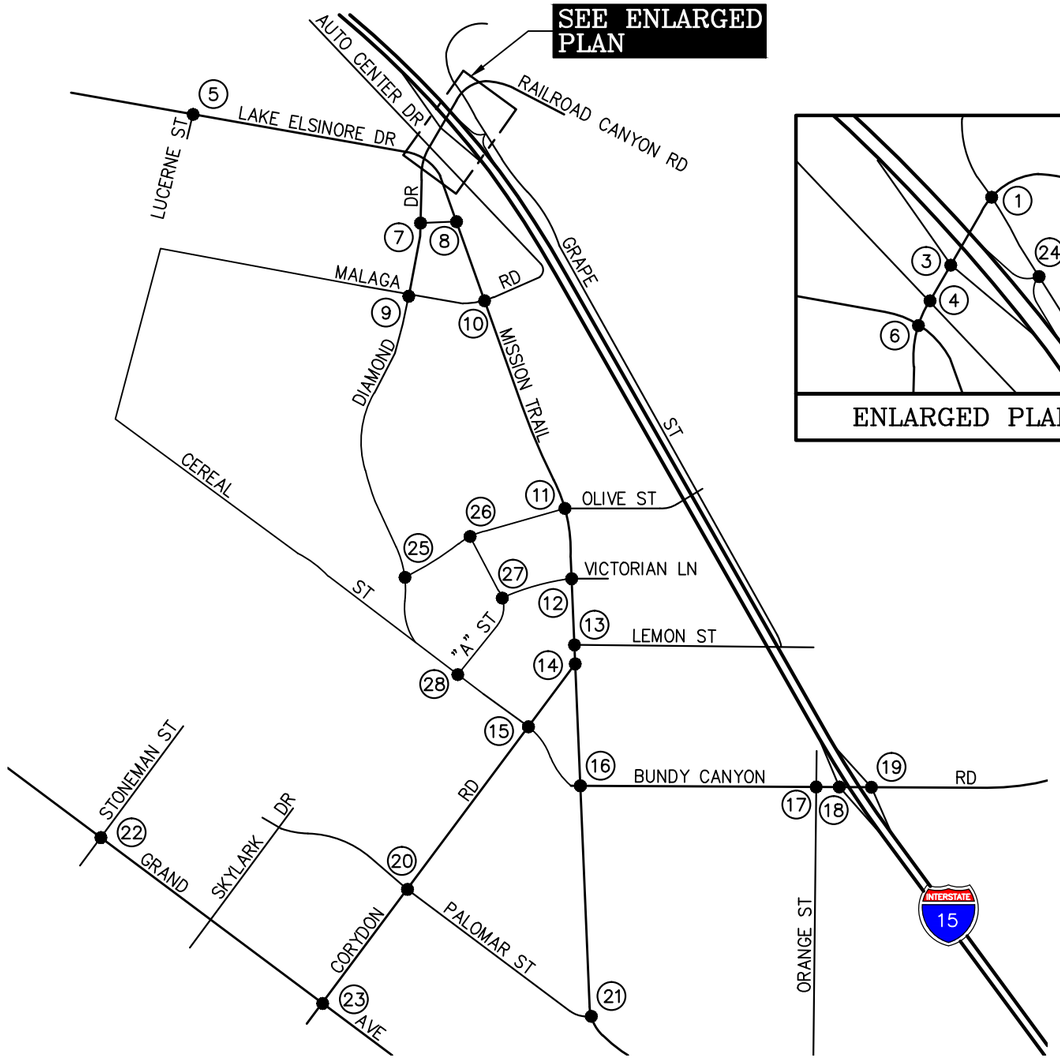
N NO SCALE

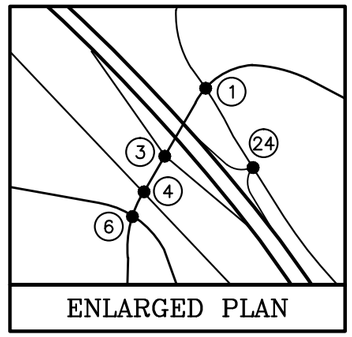
KEY

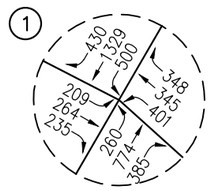
= STUDY ROADWAY SEGMENT

FIGURE 5-11

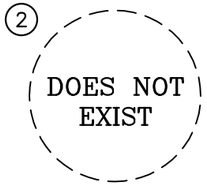
YEAR 2022 WITHOUT ELSP PROJECT PHASE I
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



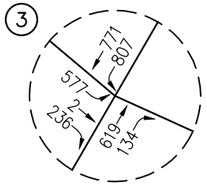




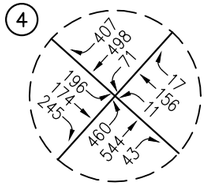
RAILROAD CANYON RD @
SUMMERHILL LN/GRAPE ST



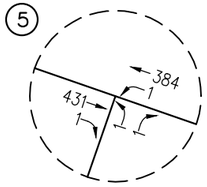
RAILROAD CANYON RD @
I-15 NB RAMPS



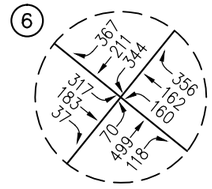
DIAMOND DR @
I-15 SB RAMPS



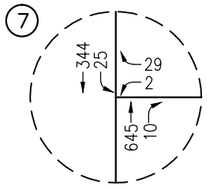
DIAMOND DR @
CASINO DR/AUTO CENTER DR



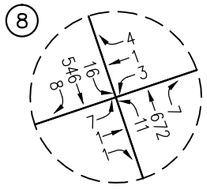
LUCERNE ST @
LAKESHORE DR



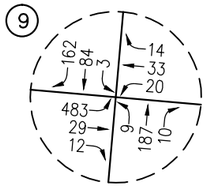
DIAMOND DR @
LAKESHORE DR/MISSTION TRAIL



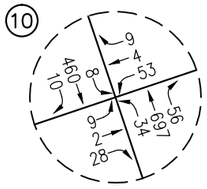
DIAMOND DR @
CAMPBELL ST



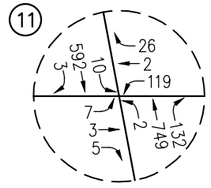
MISSION TRAIL @
CAMPBELL ST



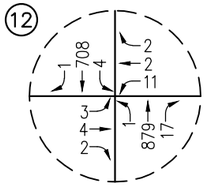
DIAMOND DR @
MALAGA RD



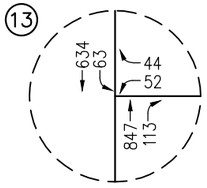
MISSION TRAIL @
MALAGA RD



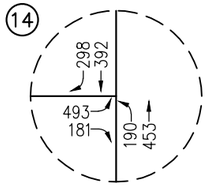
MISSION TRAIL @
OLIVE ST



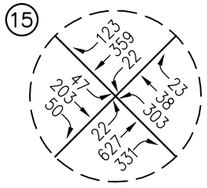
MISSION TRAIL @
VICTORIAN LN



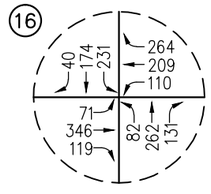
MISSION TRAIL @
LEMON ST



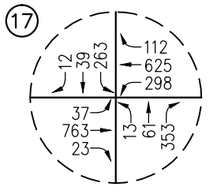
MISSION TRAIL @
CORYDON RD



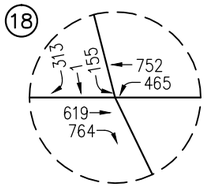
CORYDON RD @
CEREAL ST



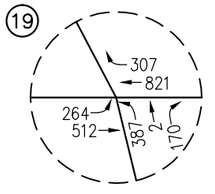
MISSION TRAIL @
BUNDY CANYON RD



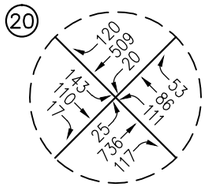
ORANGE ST @
BUNDY CANYON RD



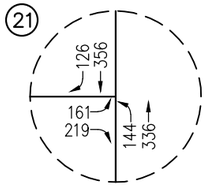
I-15 SB RAMPS @
BUNDY CANYON RD



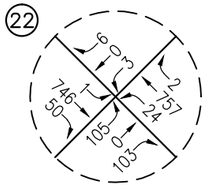
I-15 NB RAMPS @
BUNDY RANYON RD



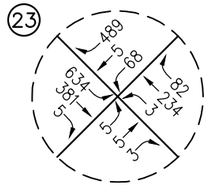
CORYDON RD @
PALOMAR ST



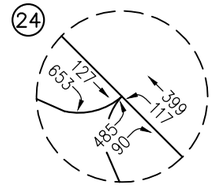
MISSION TRAIL @
PALOMAR ST



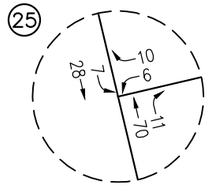
STONEMAN ST @
GRAND AVE



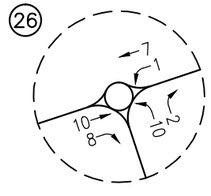
CORYDON RD @
GRAND AVE



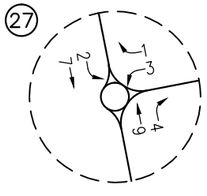
GRAPE ST @
I-15 NB RAMPS



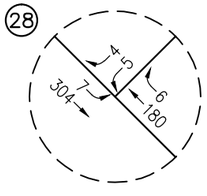
DIAMOND DR @
OLIVE ST



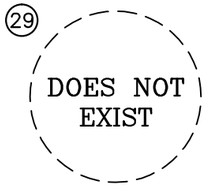
"A" ST @
OLIVE ST



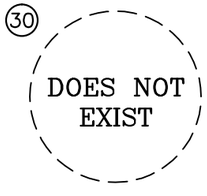
"A" ST @
VICTORIAN LN



"A" ST @
CEREAL ST



LUCERNE ST @
SYLVESTER ST



STONEMAN ST @
CEREAL STREET

n:\3500\2143544 - east lake specific plan eir, lake elsinore\6 - dwg\3544f5-12.dwg LDP 11:09:16 02-01-2017 mempin

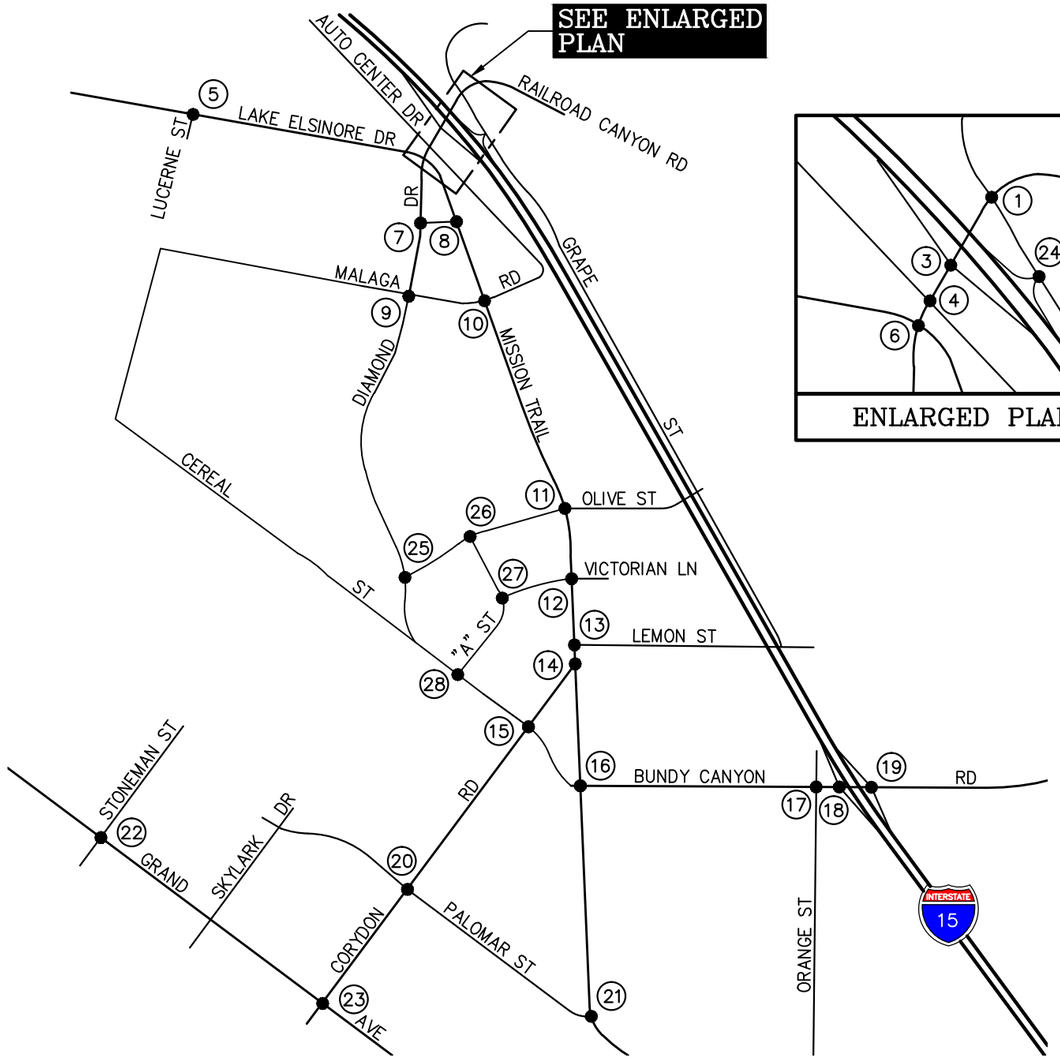
LINSCOTT LAW & GREENSPAN engineers

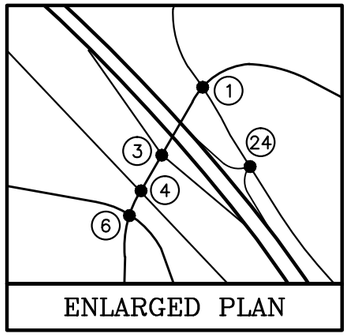
N NO SCALE

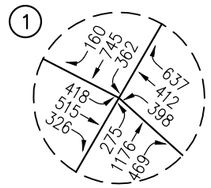
KEY
(#) = STUDY INTERSECTION

FIGURE 5-12

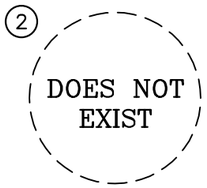
YEAR 2022 WITH ELSP PROJECT PHASE I
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



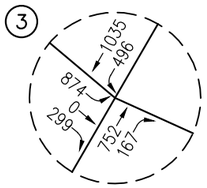




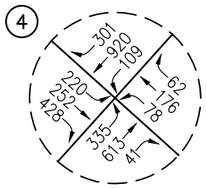
RAILROAD CANYON RD @
SUMMERHILL LN/GRAPE ST



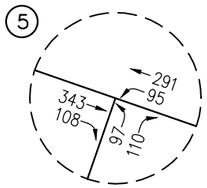
RAILROAD CANYON RD @
I–15 NB RAMPS



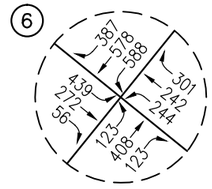
DIAMOND DR @
I–15 SB RAMPS



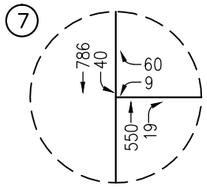
DIAMOND DR @
CASINO DR/AUTO CENTER DR



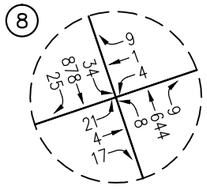
LUCERNE ST @
LAKESHORE DR



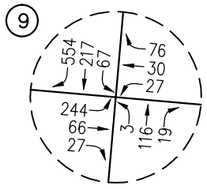
DIAMOND DR @
LAKESHORE DR/MISSTION TRAIL



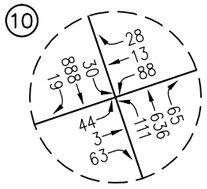
DIAMOND DR @
CAMPBELL ST



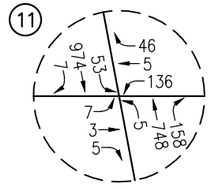
MISSION TRAIL @
CAMPBELL ST



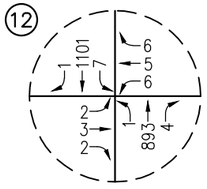
DIAMOND DR @
MALAGA RD



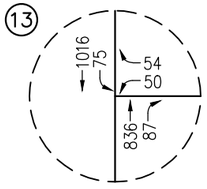
MISSION TRAIL @
MALAGA RD



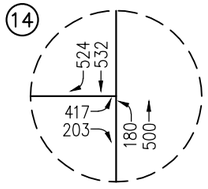
MISSION TRAIL @
OLIVE ST



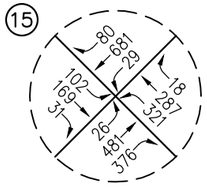
MISSION TRAIL @
VICTORIAN LN



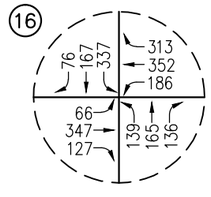
MISSION TRAIL @
LEMON ST



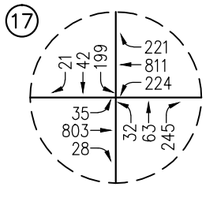
MISSION TRAIL @
CORYDON RD



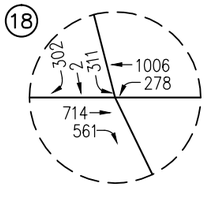
CORYDON RD @
CEREAL ST



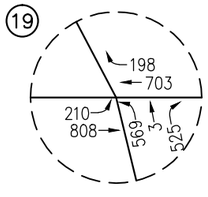
MISSION TRAIL @
BUNDY CANYON RD



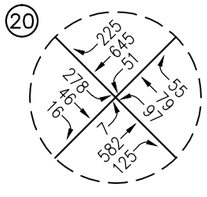
ORANGE ST @
BUNDY CANYON RD



I–15 SB RAMPS @
BUNDY CANYON RD

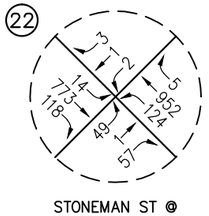


I–15 NB RAMPS @
BUNDY RANYON RD

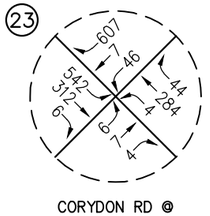


CORYDON RD @
PALOMAR ST

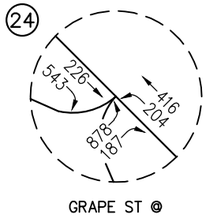
MISSION TRAIL @
PALOMAR ST



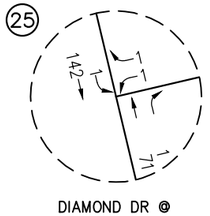
STONEMAN ST @
GRAND AVE



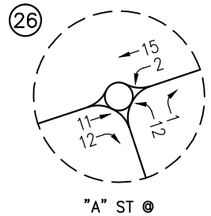
CORYDON RD @
GRAND AVE



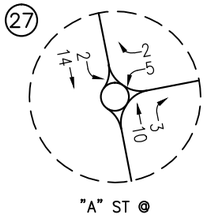
GRAPE ST @
I–15 NB RAMPS



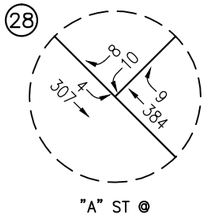
DIAMOND DR @
OLIVE ST



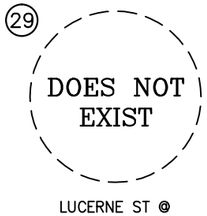
"A" ST @
OLIVE ST



"A" ST @
VICTORIAN LN



"A" ST @
CEREAL ST



LUCERNE ST @
SYLVESTER ST

STONEMAN ST @
CEREAL STREET

n:\3500\2143544 – east lake specific plan eir, lake elsinore\6 – dwg\3544f5–13.dwg LDP 11:02:41 02–01–2017 mempin

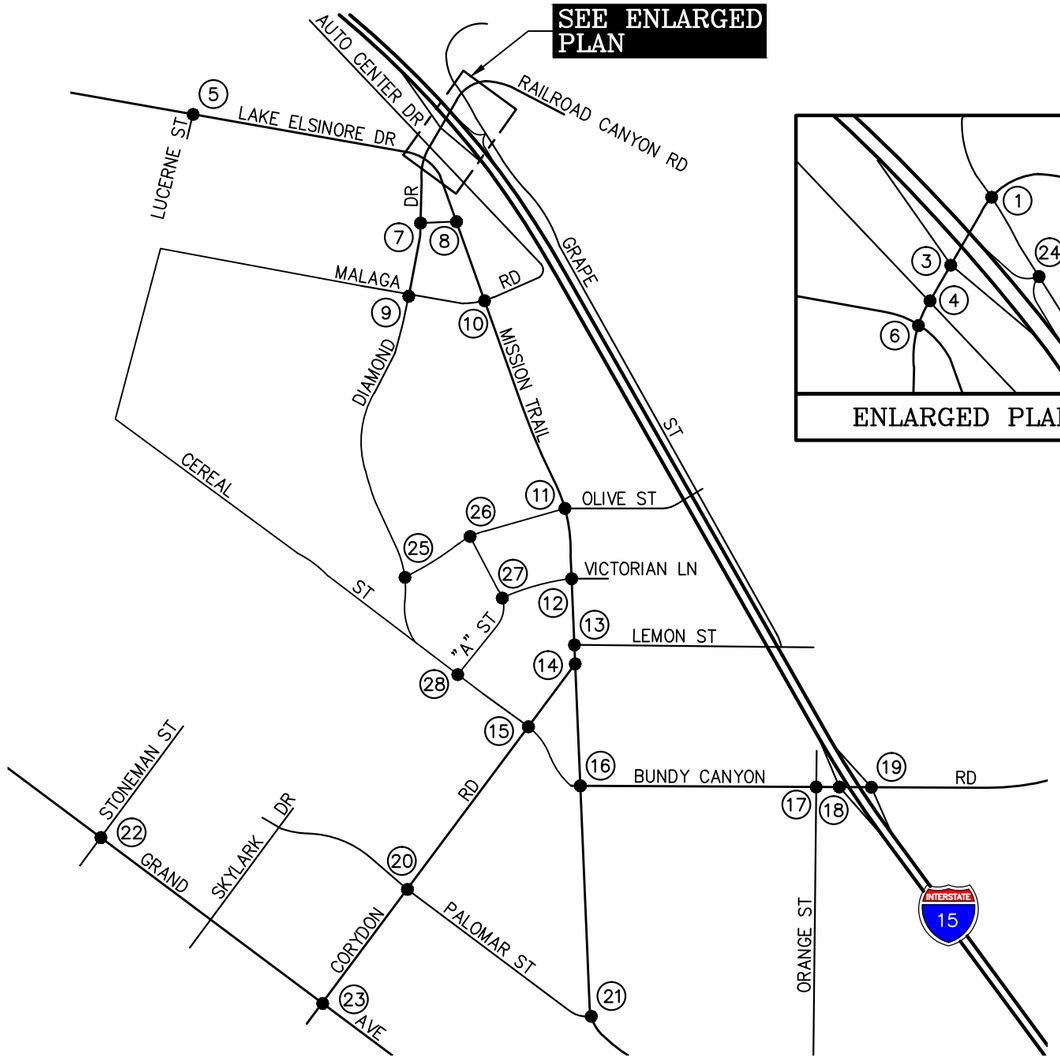
LINSCOTT LAW & GREENSPAN engineers

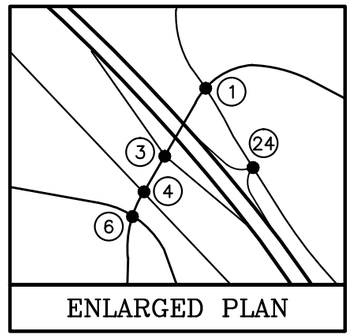
N NO SCALE

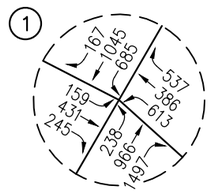
KEY
(#) = STUDY INTERSECTION

FIGURE 5–13

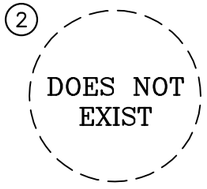
YEAR 2022 WITH ELSP PROJECT PHASE I
WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



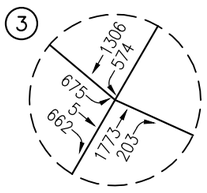




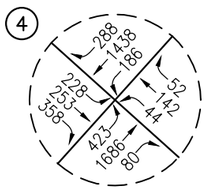
RAILROAD CANYON RD @
SUMMERHILL LN/GRAPE ST



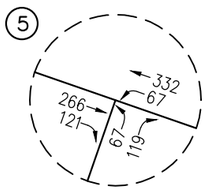
RAILROAD CANYON RD @
I–15 NB RAMPS



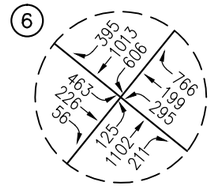
DIAMOND DR @
I–15 SB RAMPS



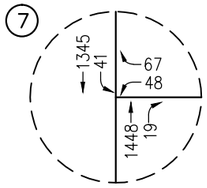
DIAMOND DR @
CASINO DR/AUTO CENTER DR



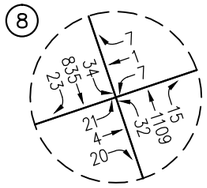
LUCERNE ST @
LAKESHORE DR



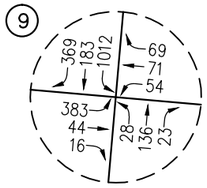
DIAMOND DR @
LAKESHORE DR/MISSTION TRAIL



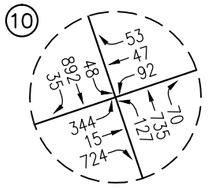
DIAMOND DR @
CAMPBELL ST



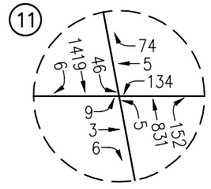
MISSION TRAIL @
CAMPBELL ST



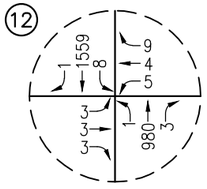
DIAMOND DR @
MALAGA RD



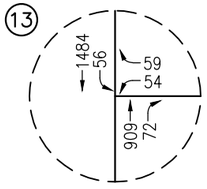
MISSION TRAIL @
MALAGA RD



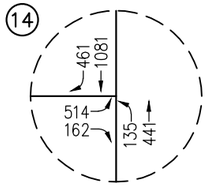
MISSION TRAIL @
OLIVE ST



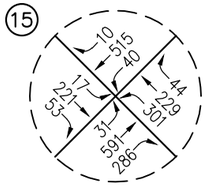
MISSION TRAIL @
VICTORIAN LN



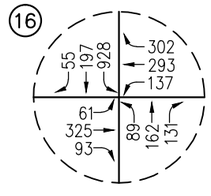
MISSION TRAIL @
LEMON ST



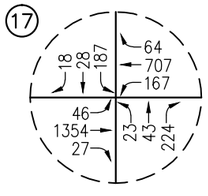
MISSION TRAIL @
CORYDON RD



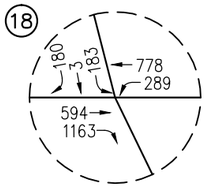
CORYDON RD @
CEREAL ST



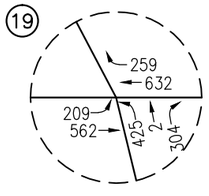
MISSION TRAIL @
BUNDY CANYON RD



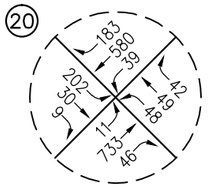
ORANGE ST @
BUNDY CANYON RD



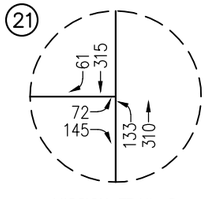
I–15 SB RAMPS @
BUNDY CANYON RD



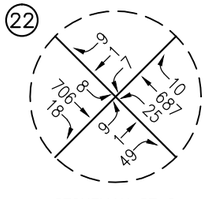
I–15 NB RAMPS @
BUNDY RANYON RD



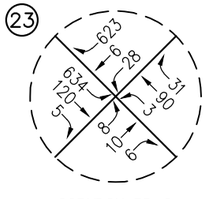
CORYDON RD @
PALOMAR ST



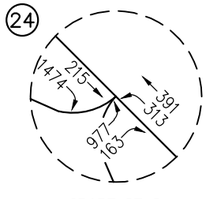
MISSION TRAIL @
PALOMAR ST



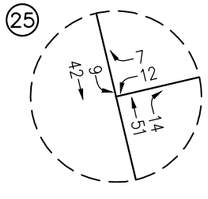
STONEMAN ST @
GRAND AVE



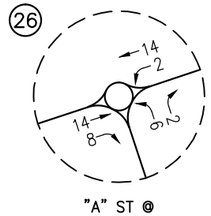
CORYDON RD @
GRAND AVE



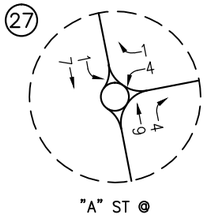
GRAPE ST @
I–15 NB RAMPS



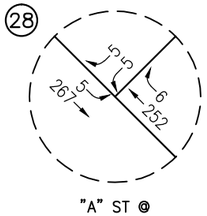
DIAMOND DR @
OLIVE ST



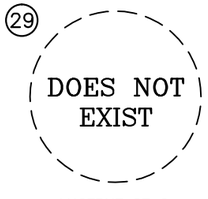
"A" ST @
OLIVE ST



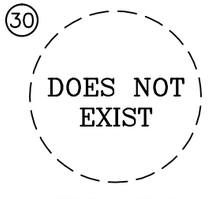
"A" ST @
VICTORIAN LN



"A" ST @
CEREAL ST



LUCERNE ST @
SYLVESTER ST



STONEMAN ST @
CEREAL STREET

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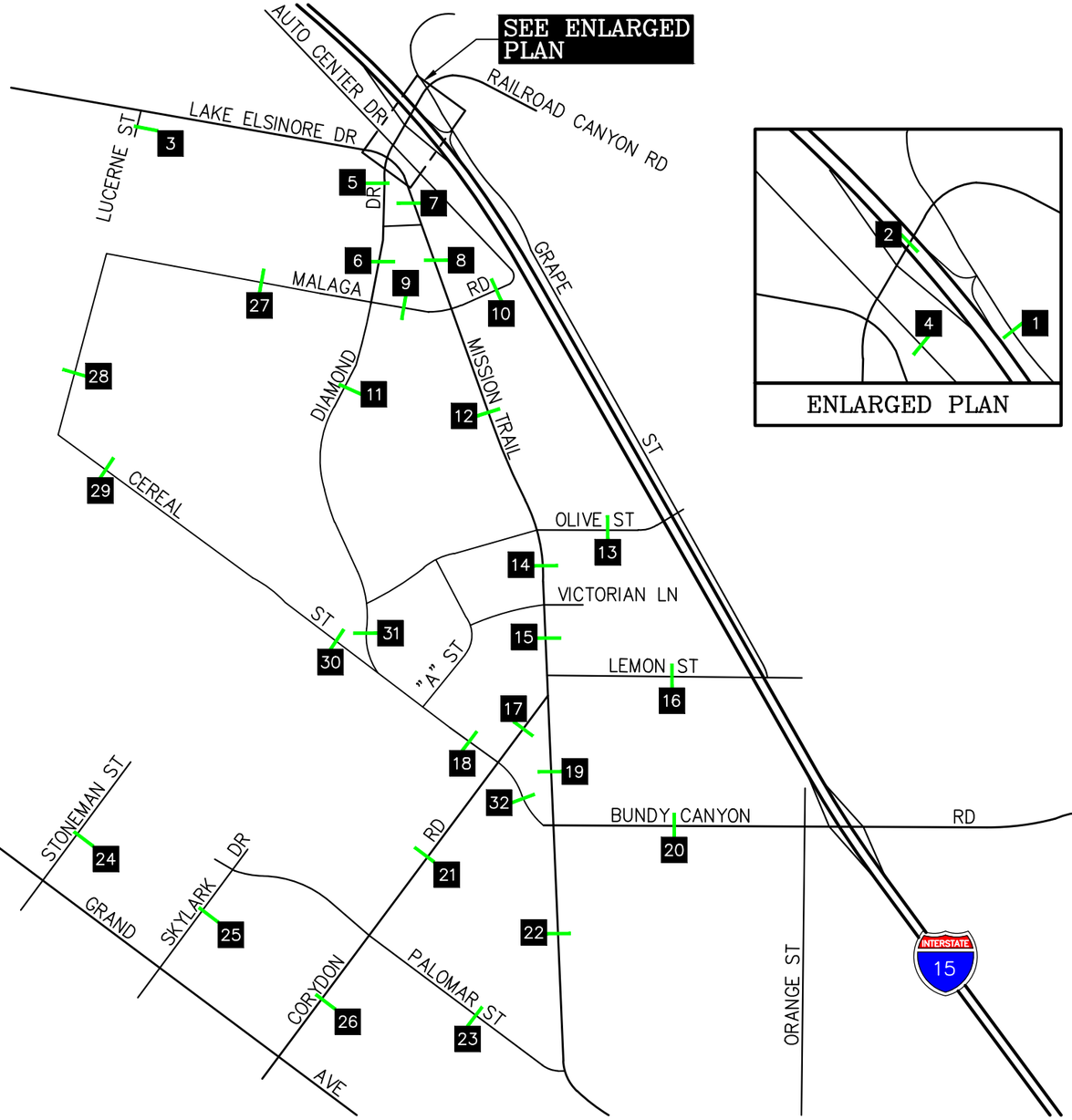
N NO SCALE

(#) = STUDY INTERSECTION

FIGURE 5–14

YEAR 2022 WITH ELSP PROJECT PHASE I
SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	35,311	17	17,177
2	22,993	18	6,591
3	71	19	15,196
4	7,293	20	19,789
5	17,371	21	23,915
6	13,951	22	10,491
7	23,182	23	4,337
8	21,103	24	760
9	2,831	25	2,063
10	2,751	26	17,681
11	1,778	27	9,894
12	21,521	28	8,623
13	3,993	29	5,602
14	23,260	30	5,602
15	23,456	31	1,597
16	3,342	32	11,699

LINSCOTT LAW & GREENSPAN engineers

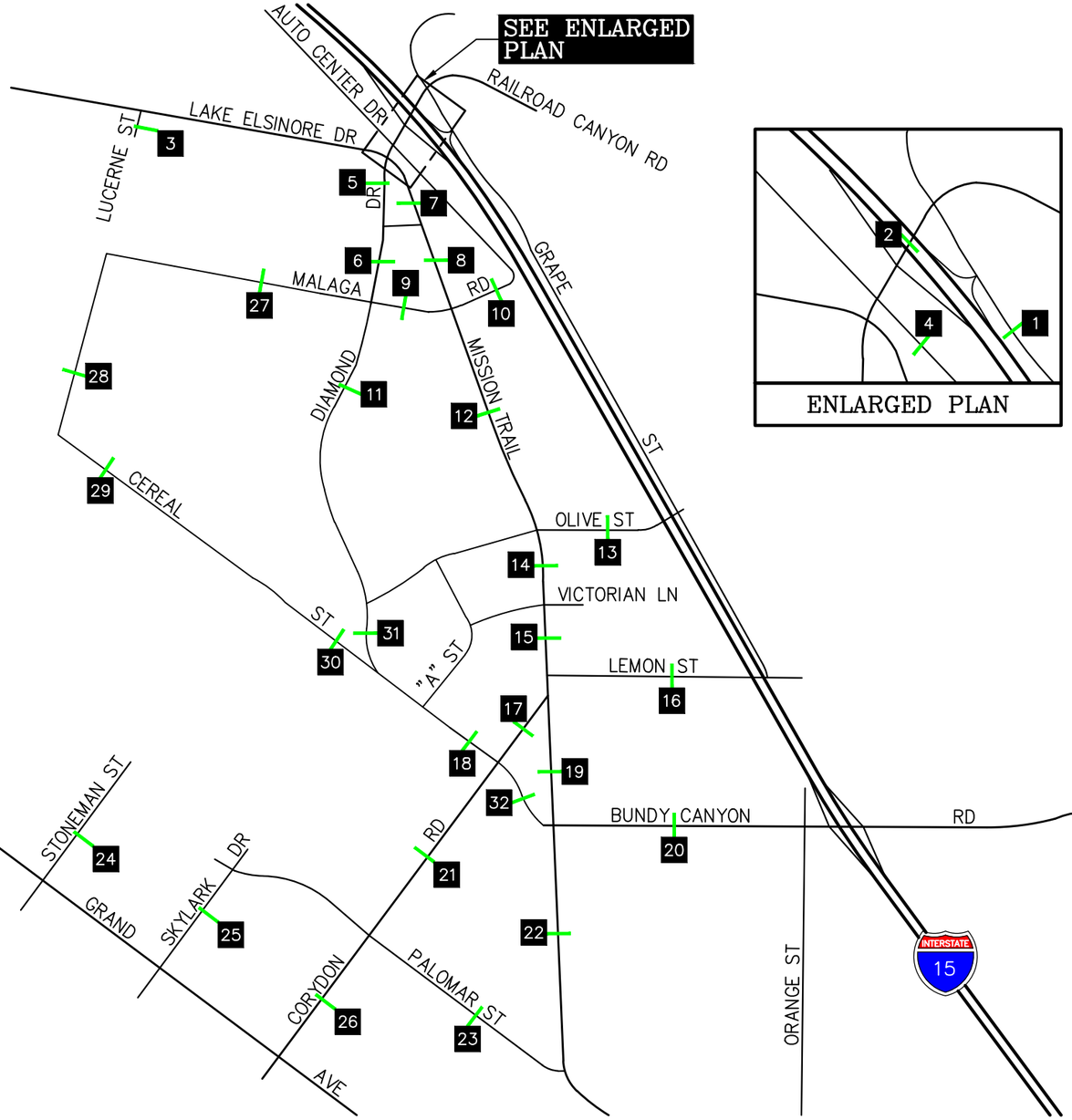
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-15

YEAR 2022 WITH ELSP PROJECT PHASE I
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	41,902	17	16,139
2	26,106	18	7,581
3	63	19	13,516
4	6,804	20	19,035
5	19,882	21	22,691
6	14,723	22	9,236
7	20,756	23	3,806
8	21,962	24	724
9	2,882	25	2,222
10	2,946	26	16,582
11	1,724	27	10,571
12	21,050	28	9,263
13	3,884	29	6,006
14	22,268	30	6,006
15	22,444	31	1,615
16	3,136	32	11,734

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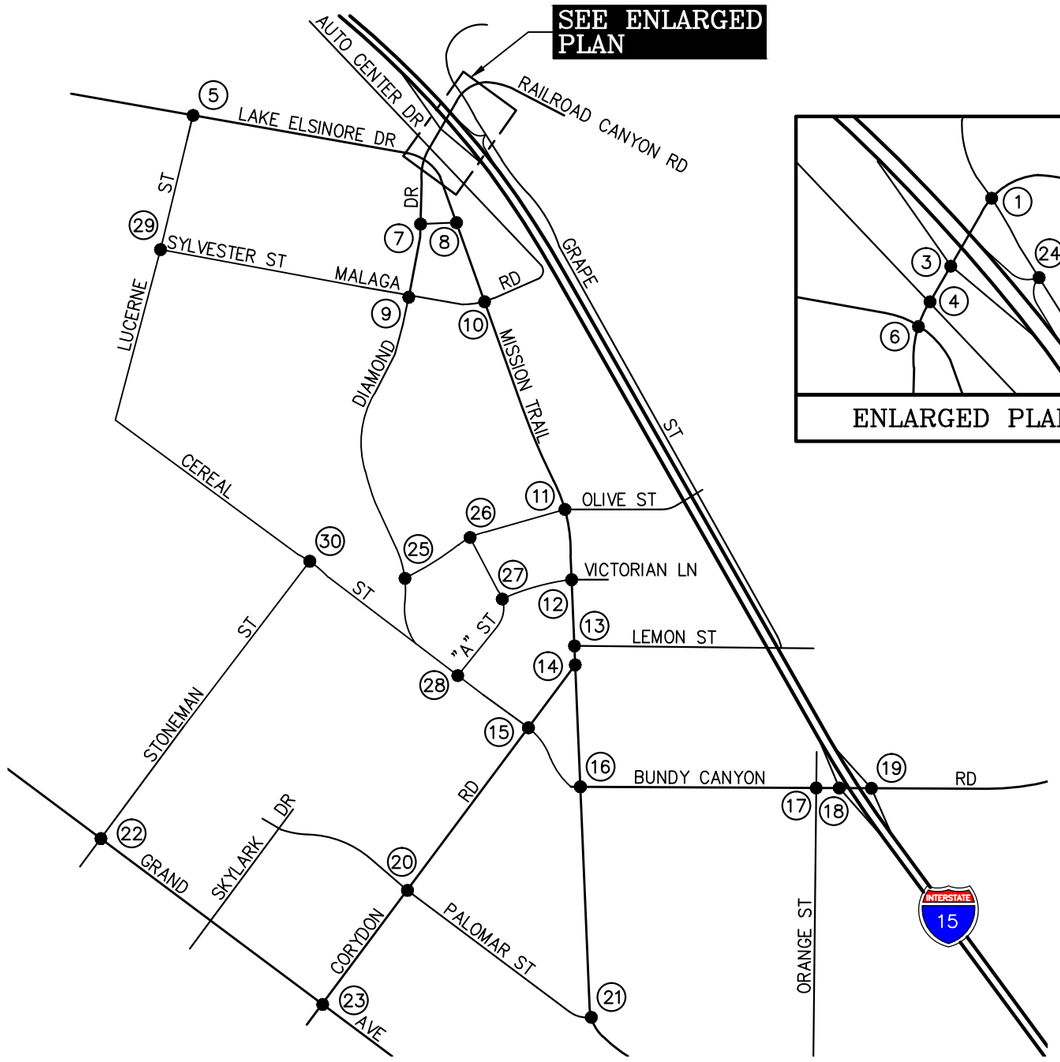
N NO SCALE

KEY

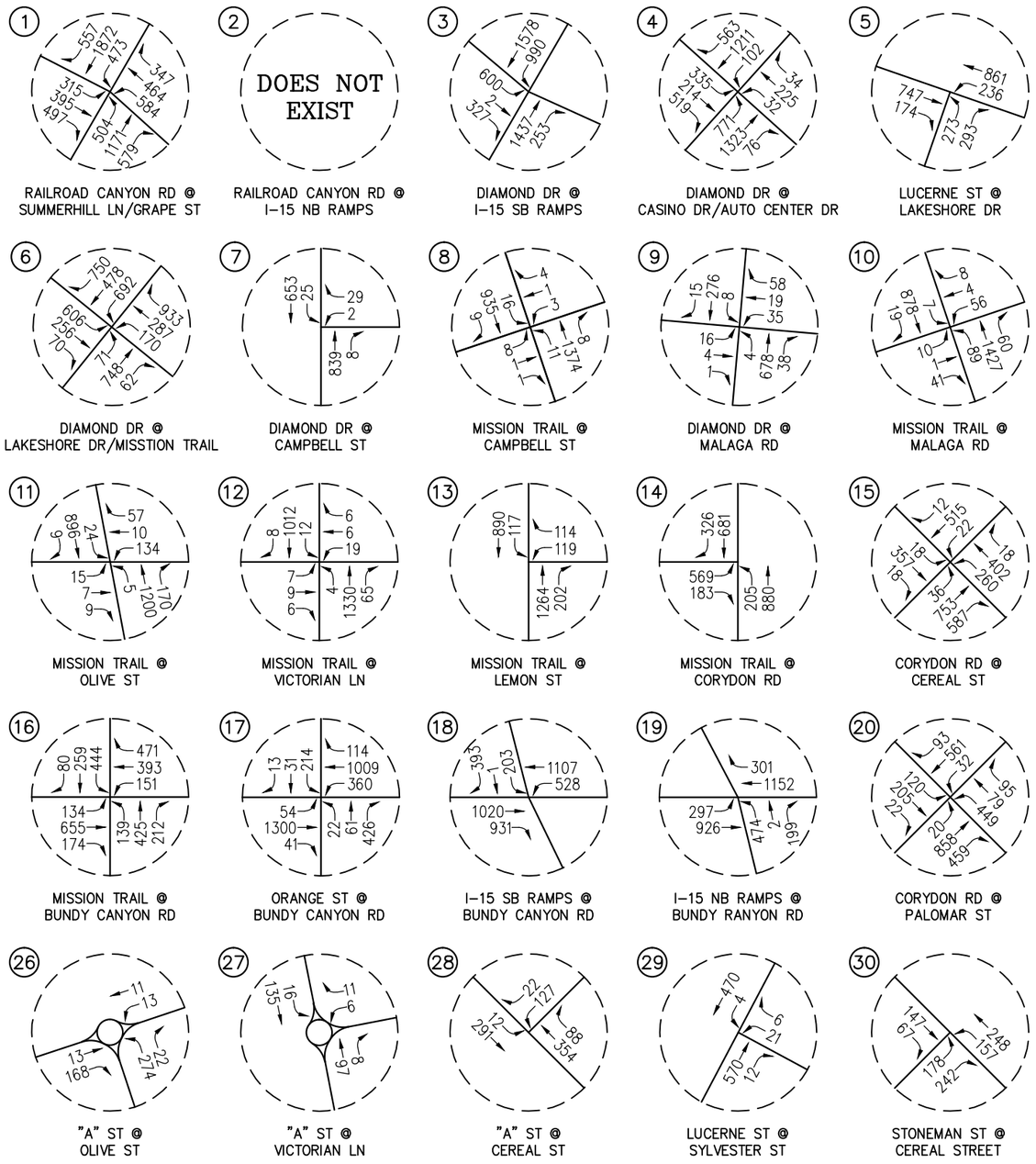
= STUDY ROADWAY SEGMENT

FIGURE 5-16

YEAR 2022 WITH ELSP PROJECT PHASE I
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



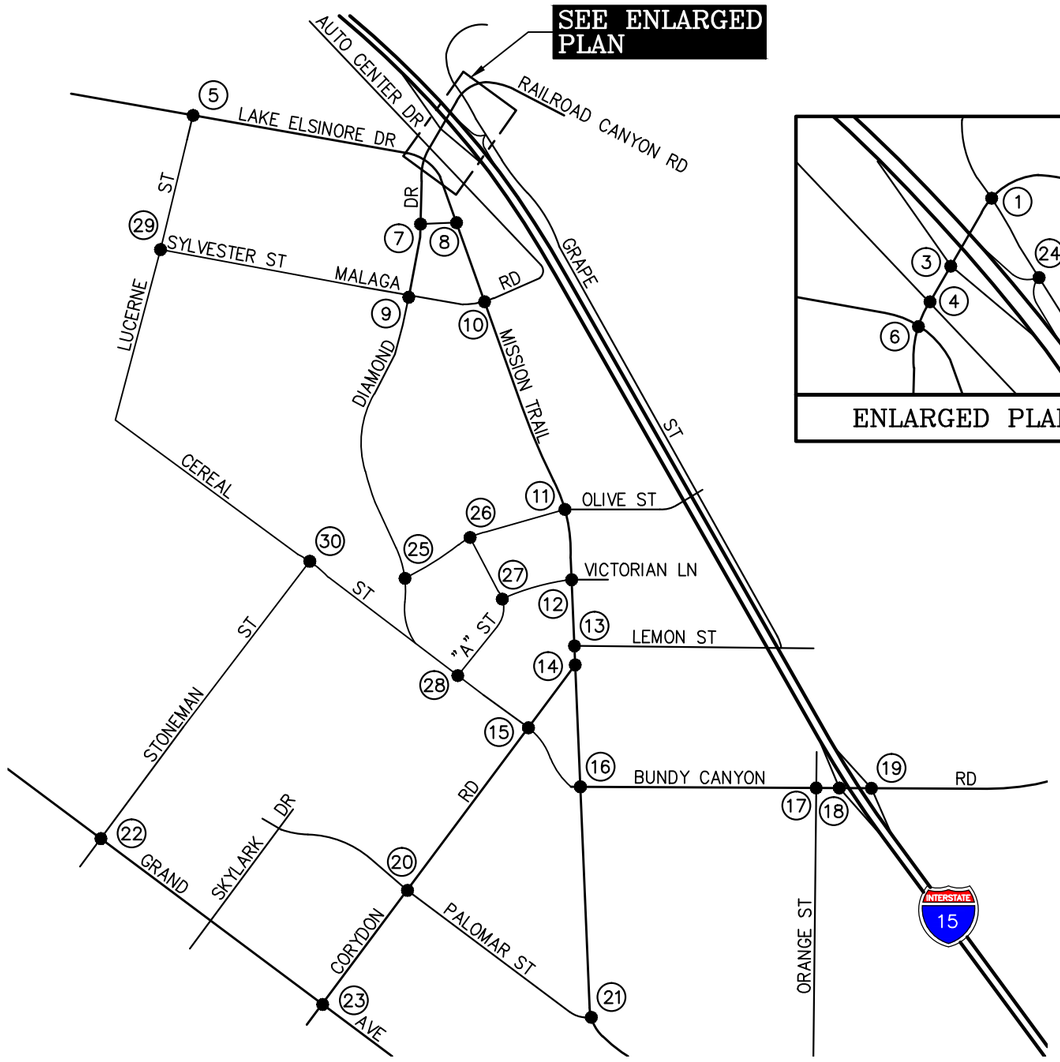
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

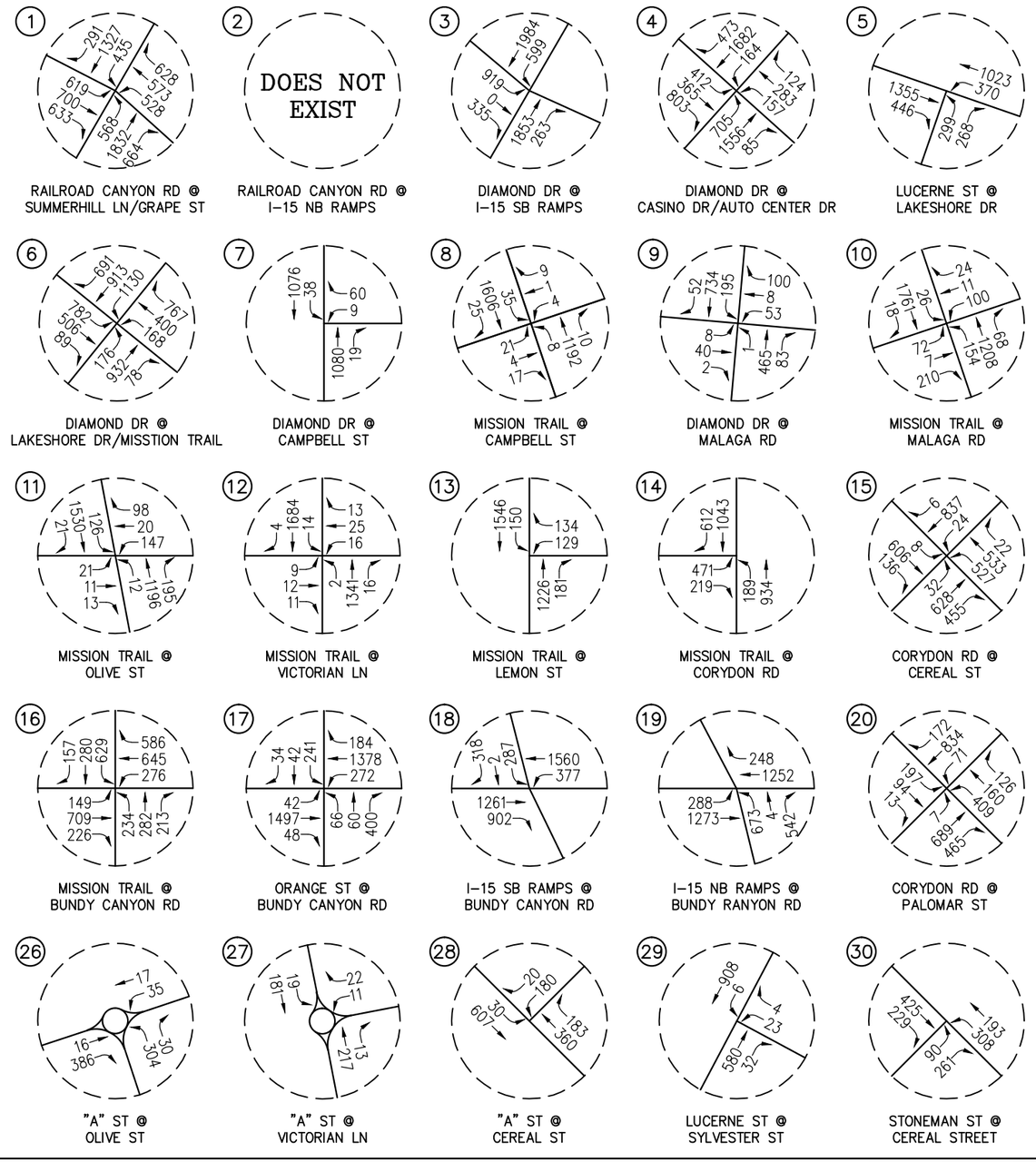
KEY
(#) = STUDY INTERSECTION

FIGURE 5-17

YEAR 2040 WITH ADOPTED SPECIFIC PLAN
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



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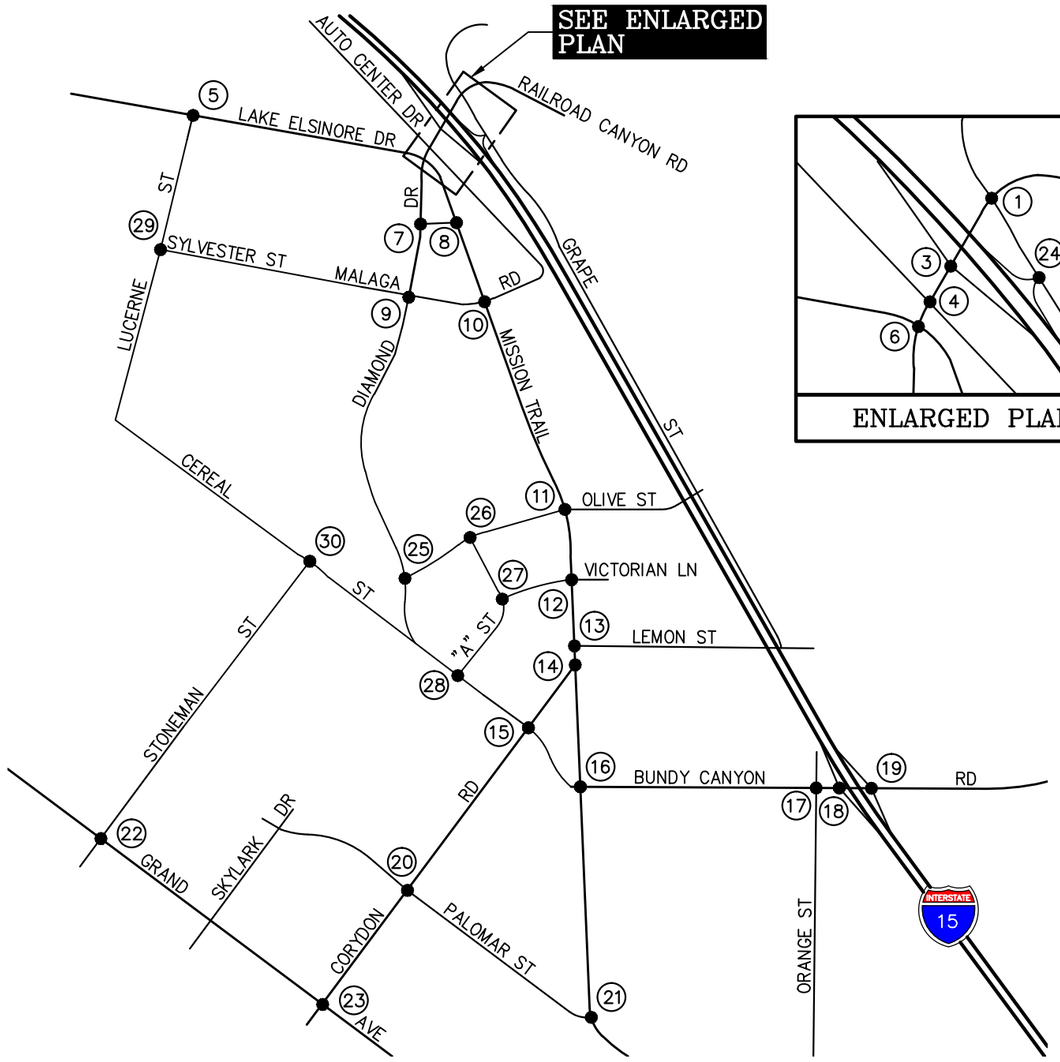
N NO SCALE

KEY

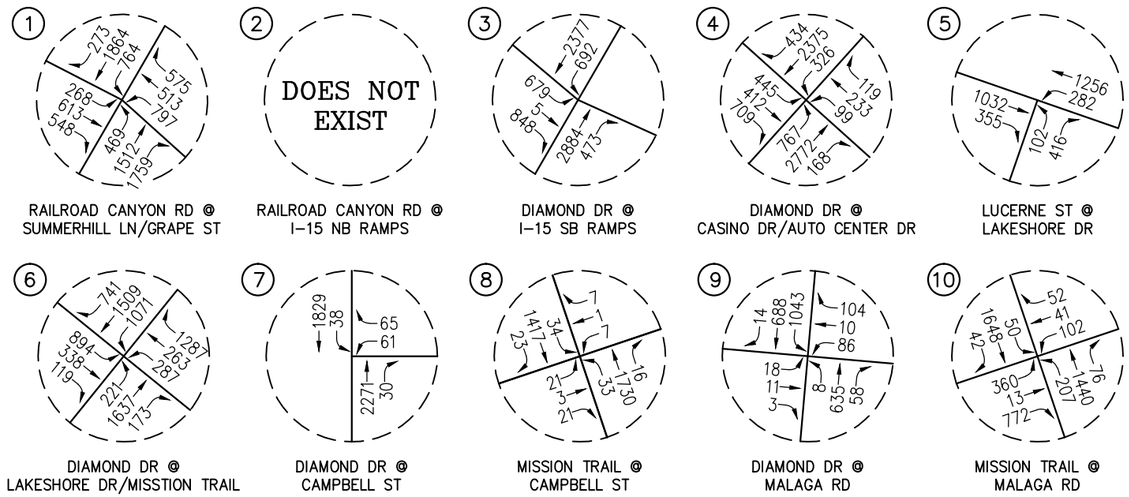
(#) = STUDY INTERSECTION

FIGURE 5-18

YEAR 2040 WITH ADOPTED SPECIFIC PLAN
WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



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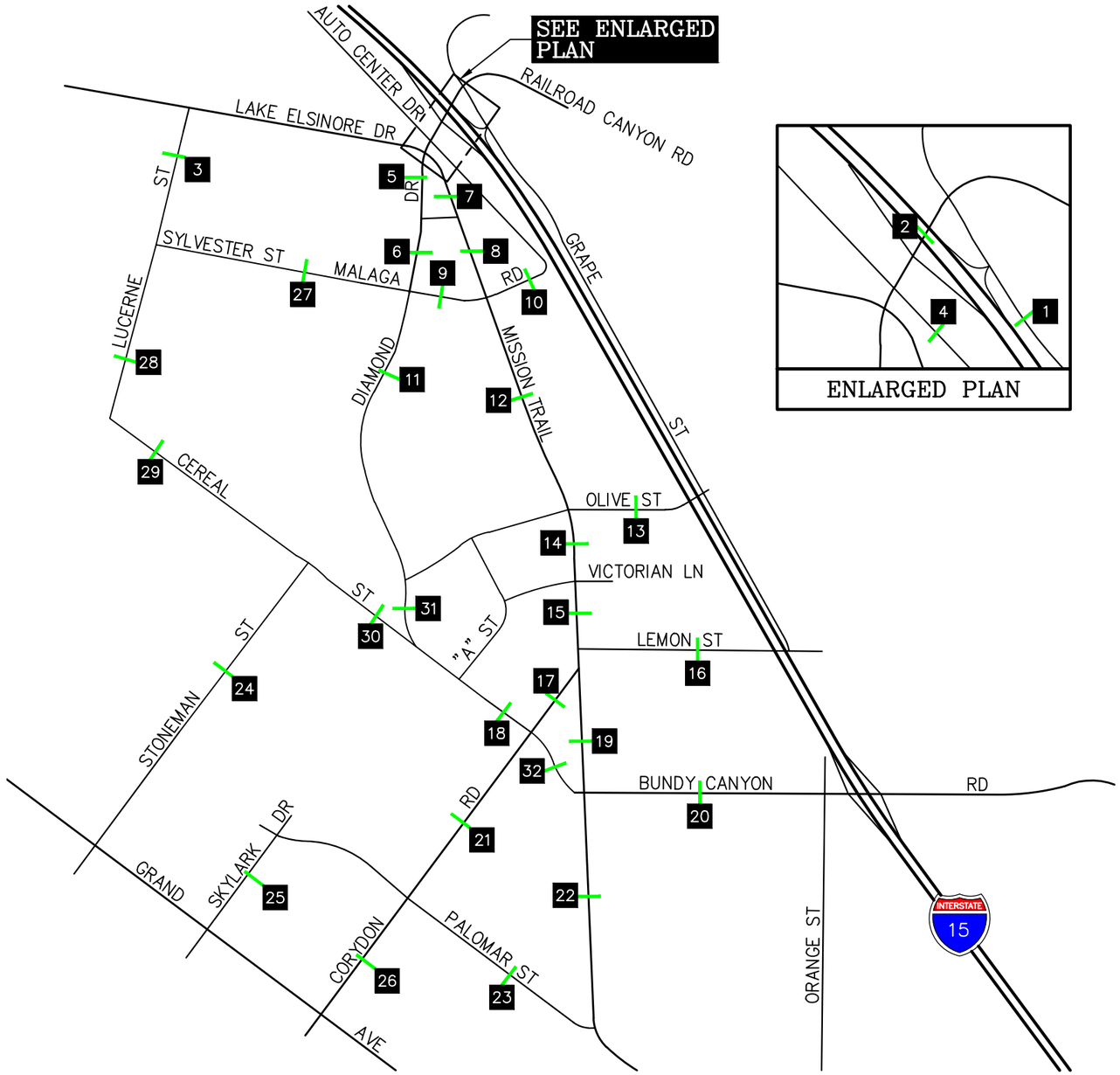
N NO SCALE

KEY

(#) = STUDY INTERSECTION

FIGURE 5-19

YEAR 2040 WITH ADOPTED SPECIFIC PLAN
SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	44,238	17	20,240
2	47,181	18	11,588
3	13,145	19	24,718
4	12,291	20	33,669
5	26,642	21	32,174
6	16,884	22	16,208
7	37,889	23	13,718
8	37,389	24	7,233
9	4,264	25	1,065
10	2,776	26	27,757
11	11,934	27	649
12	39,372	28	11,487
13	5,824	29	7,941
14	35,170	30	10,158
15	35,864	31	7,005
16	7,267	32	20,093

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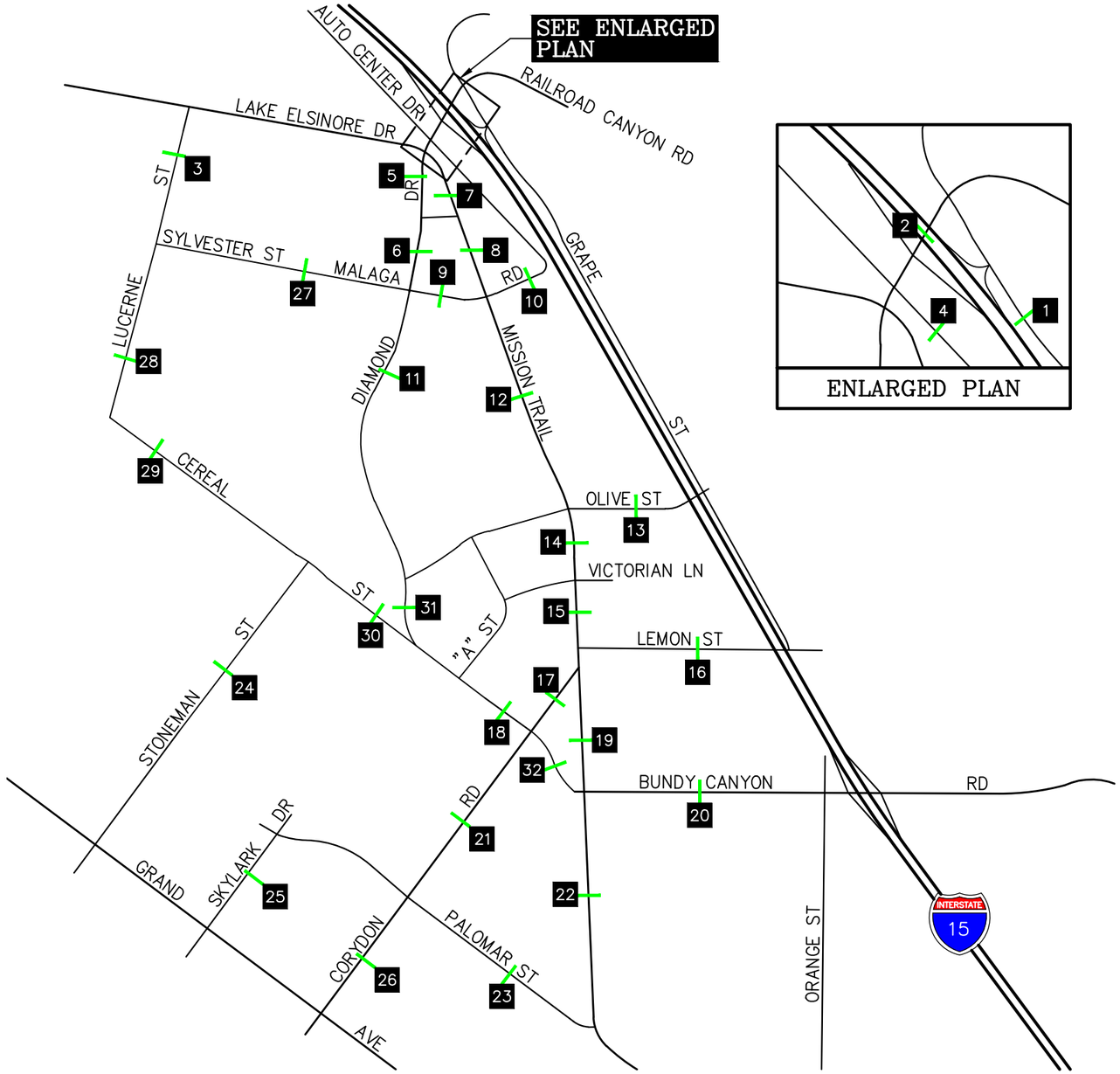
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-20

YEAR 2040 WITH ADOPTED SPECIFIC PLAN
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	52,557	17	19,760
2	52,096	18	14,785
3	13,658	19	22,336
4	11,468	20	33,355
5	29,203	21	32,003
6	18,435	22	14,631
7	36,345	23	12,059
8	40,311	24	7,383
9	4,358	25	1,146
10	2,973	26	26,059
11	12,976	27	736
12	40,452	28	12,491
13	5,769	29	8,350
14	34,584	30	10,574
15	35,343	31	7,437
16	6,945	32	21,117

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N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-21

YEAR 2040 WITH ADOPTED SPECIFIC PLAN
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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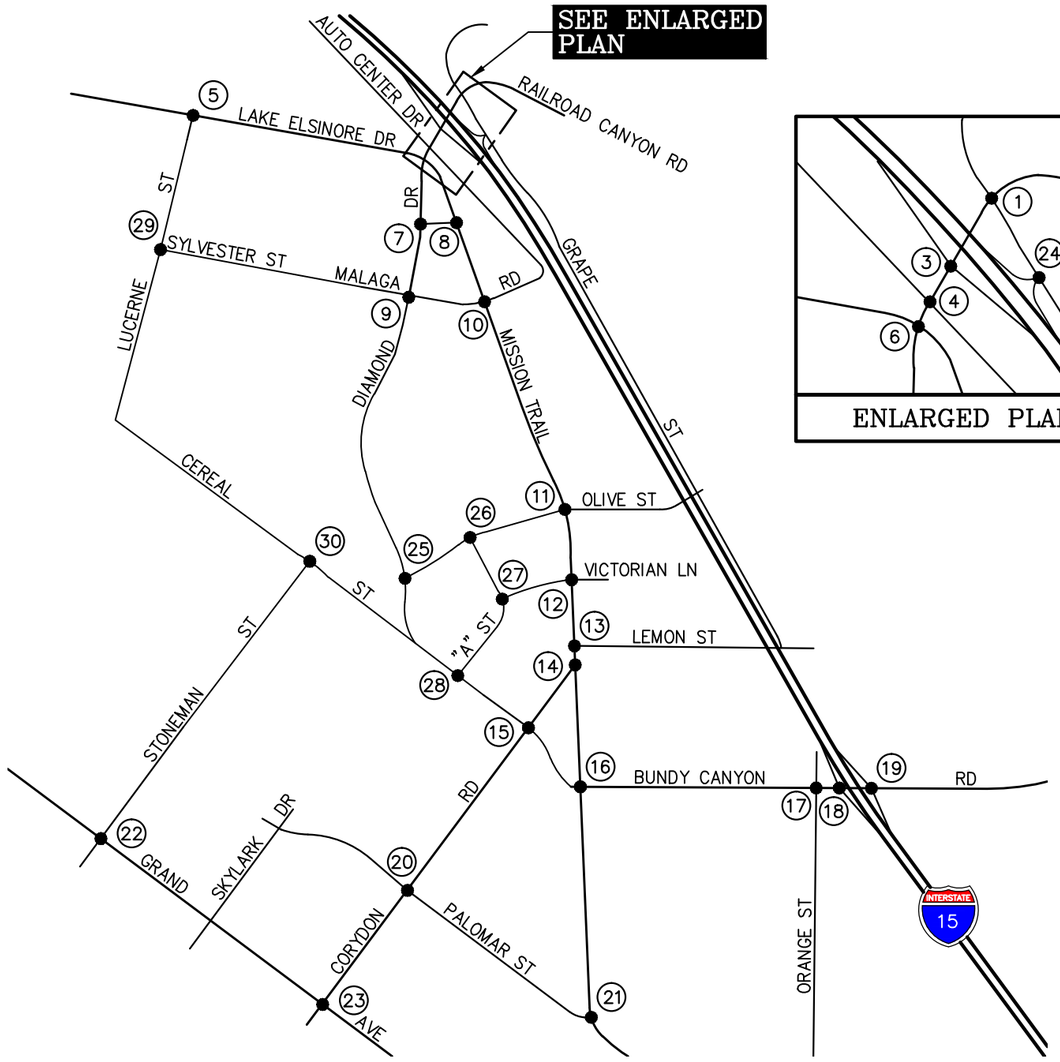
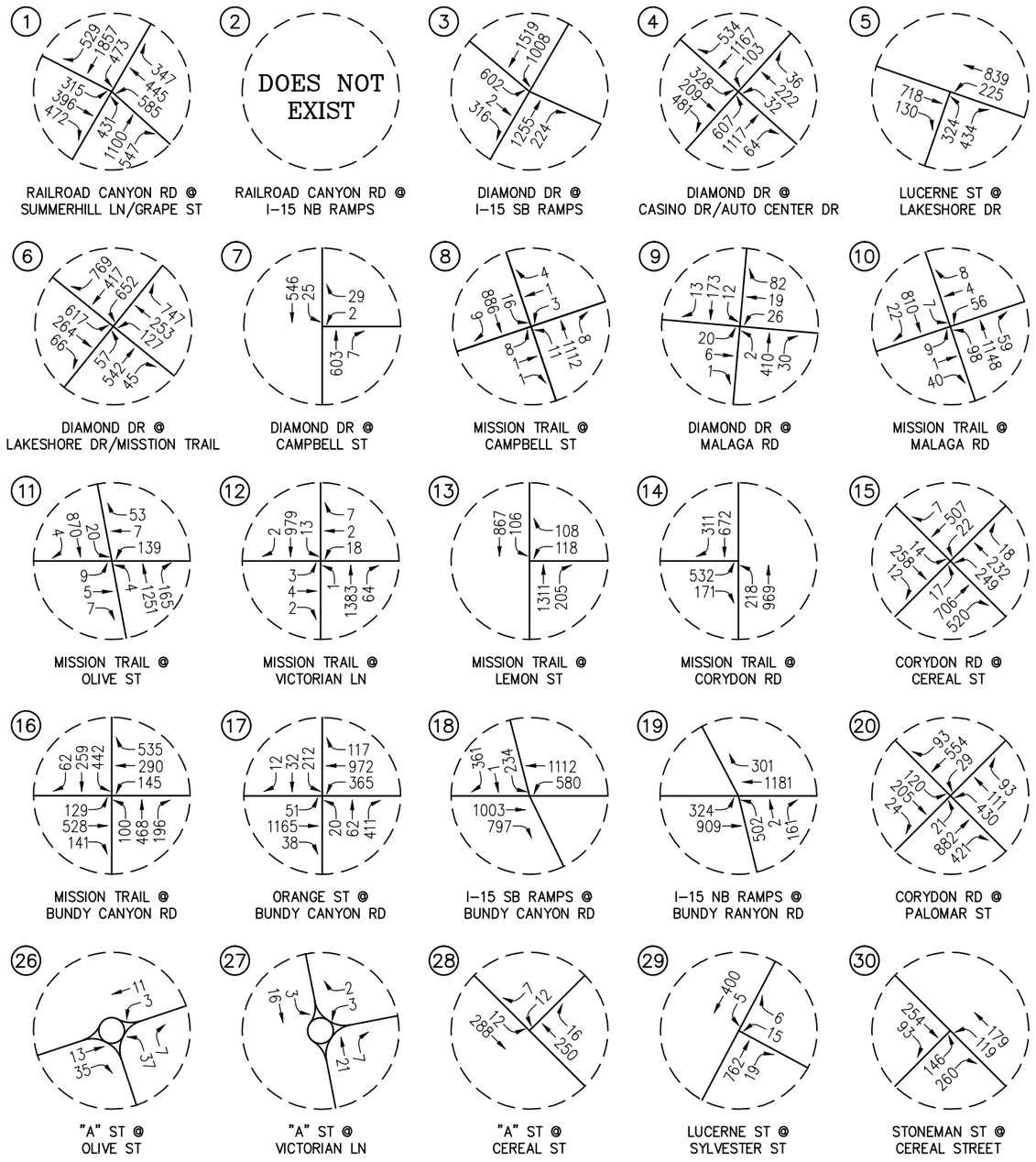


ENLARGED PLAN



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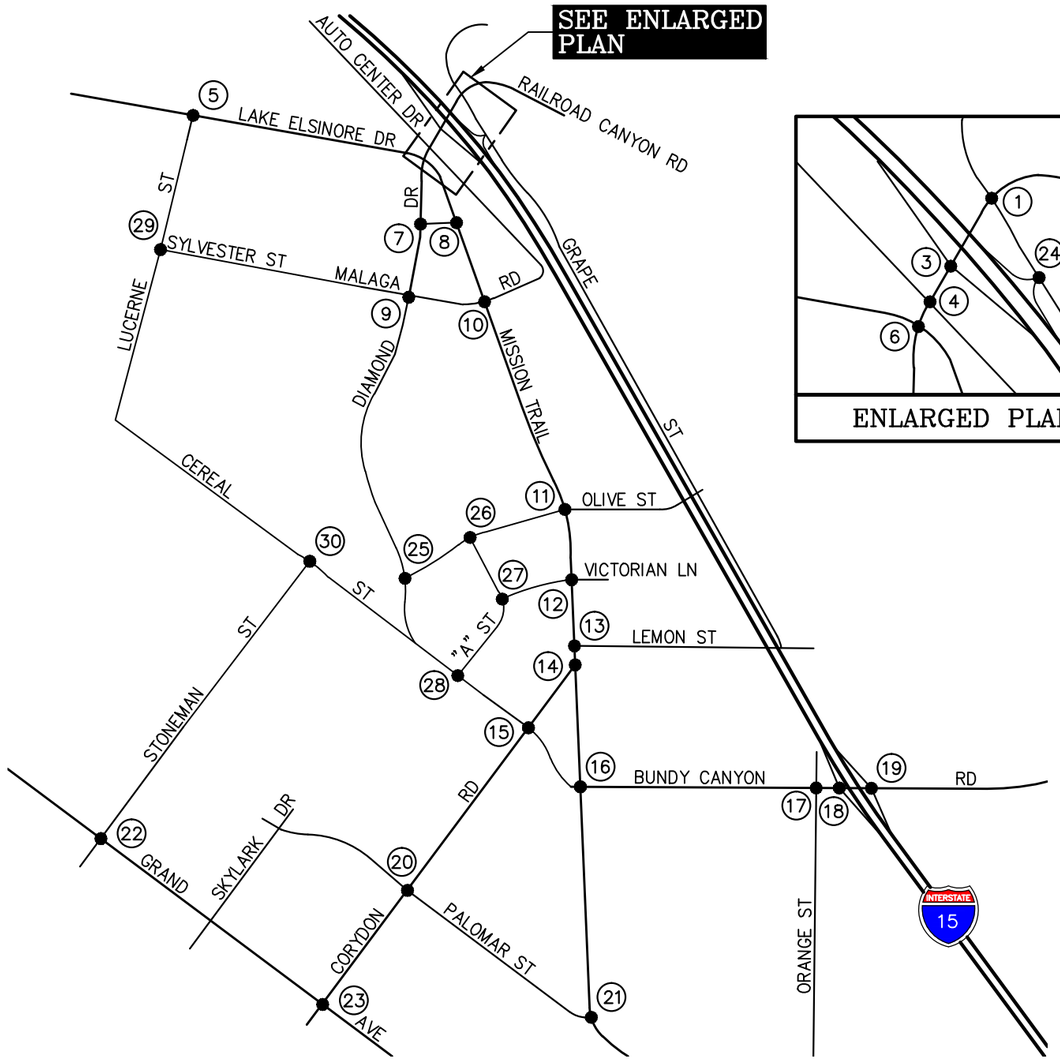
N NO SCALE

KEY

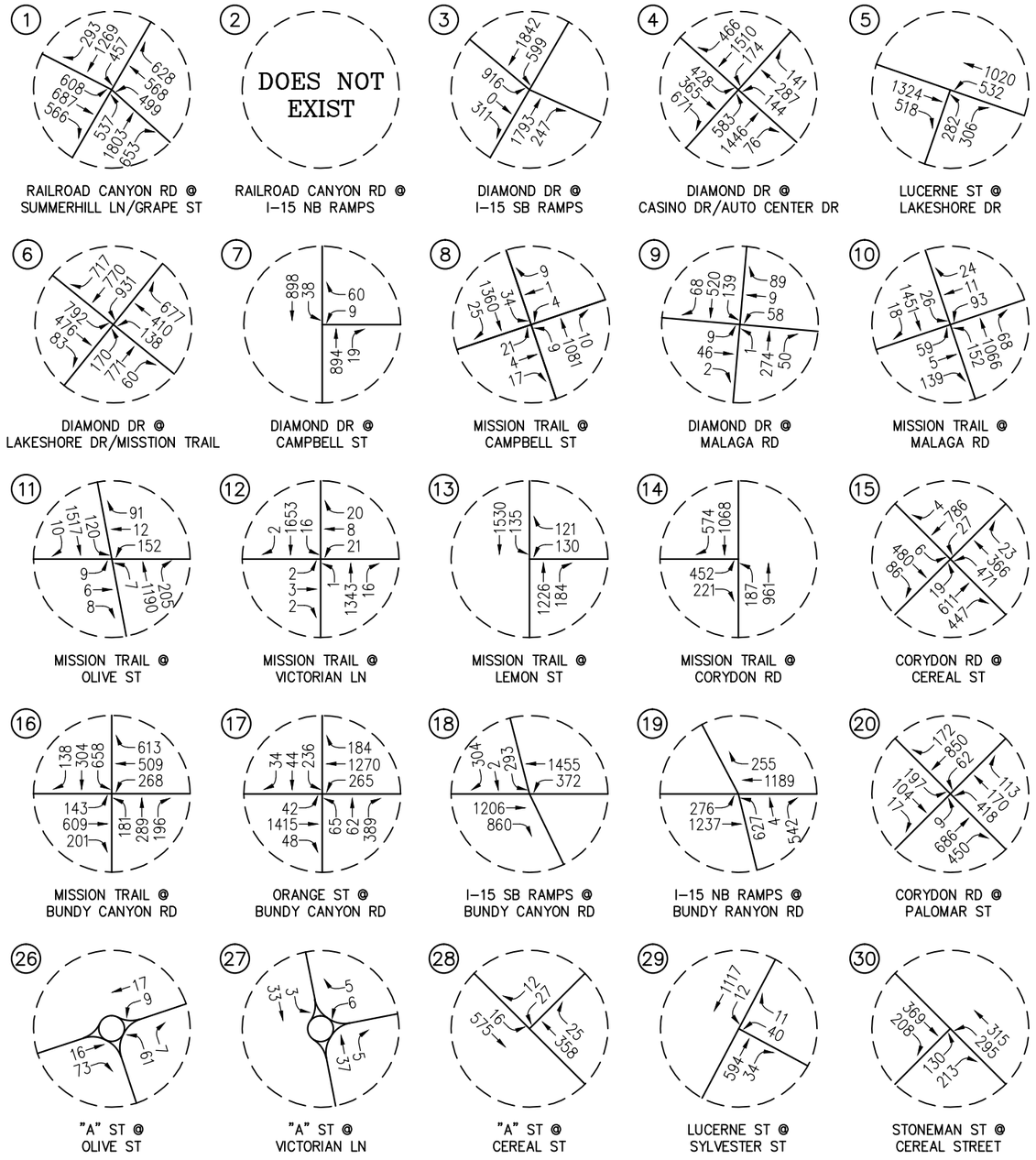
(#) = STUDY INTERSECTION

FIGURE 5-22

YEAR 2040 WITH ELSP PROJECT BUILDOUT
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN



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N NO SCALE

KEY
(#) = STUDY INTERSECTION

FIGURE 5-23

YEAR 2040 WITH ELSP PROJECT BUILDOUT
WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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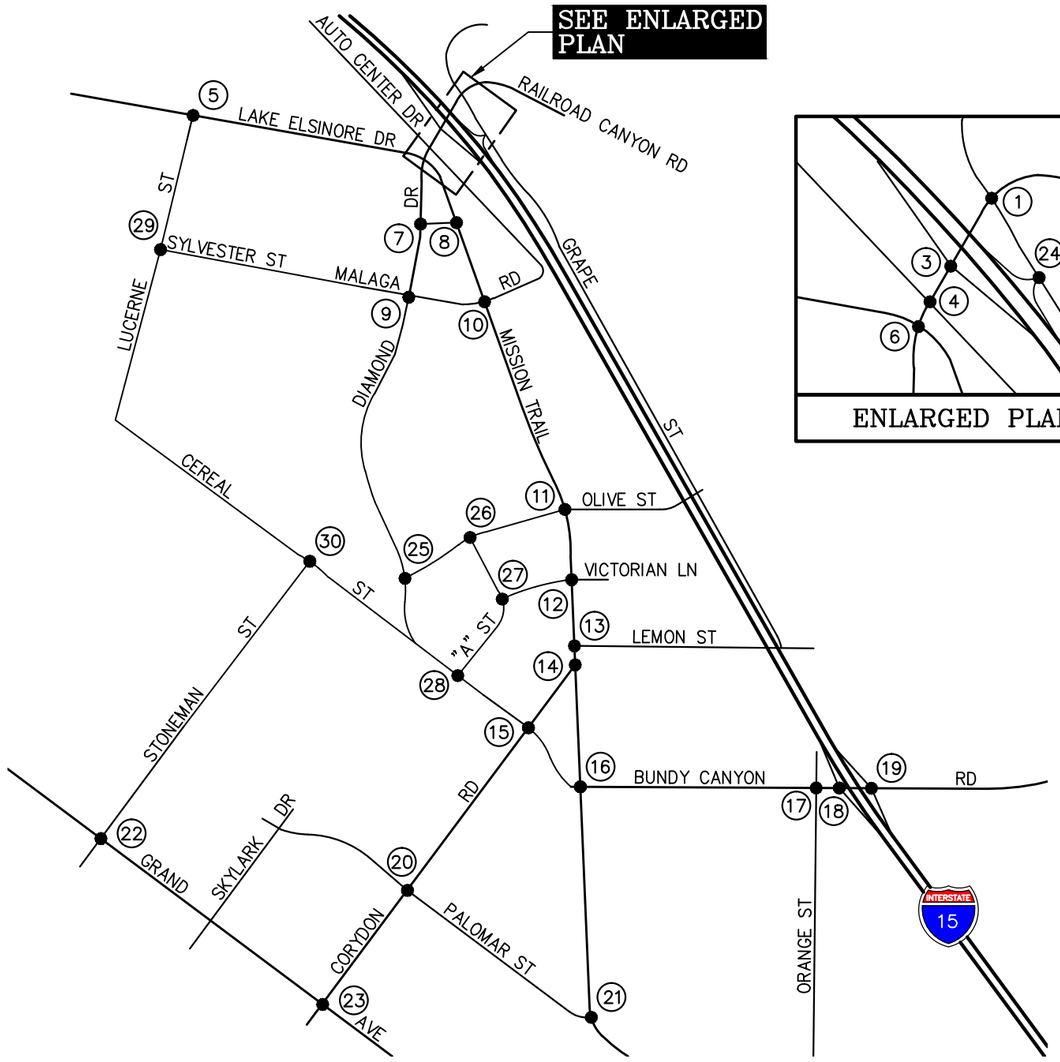
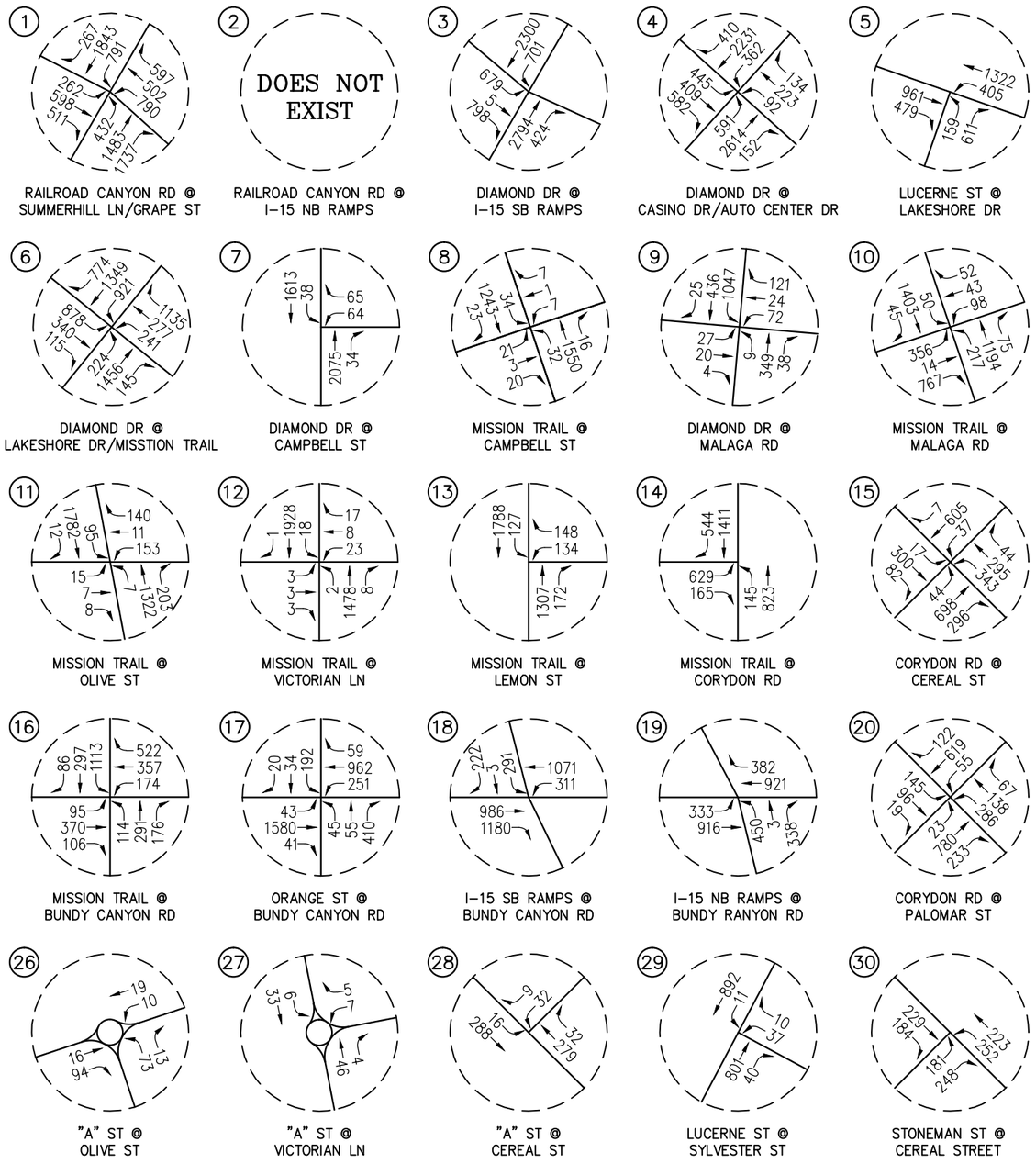


ENLARGED PLAN



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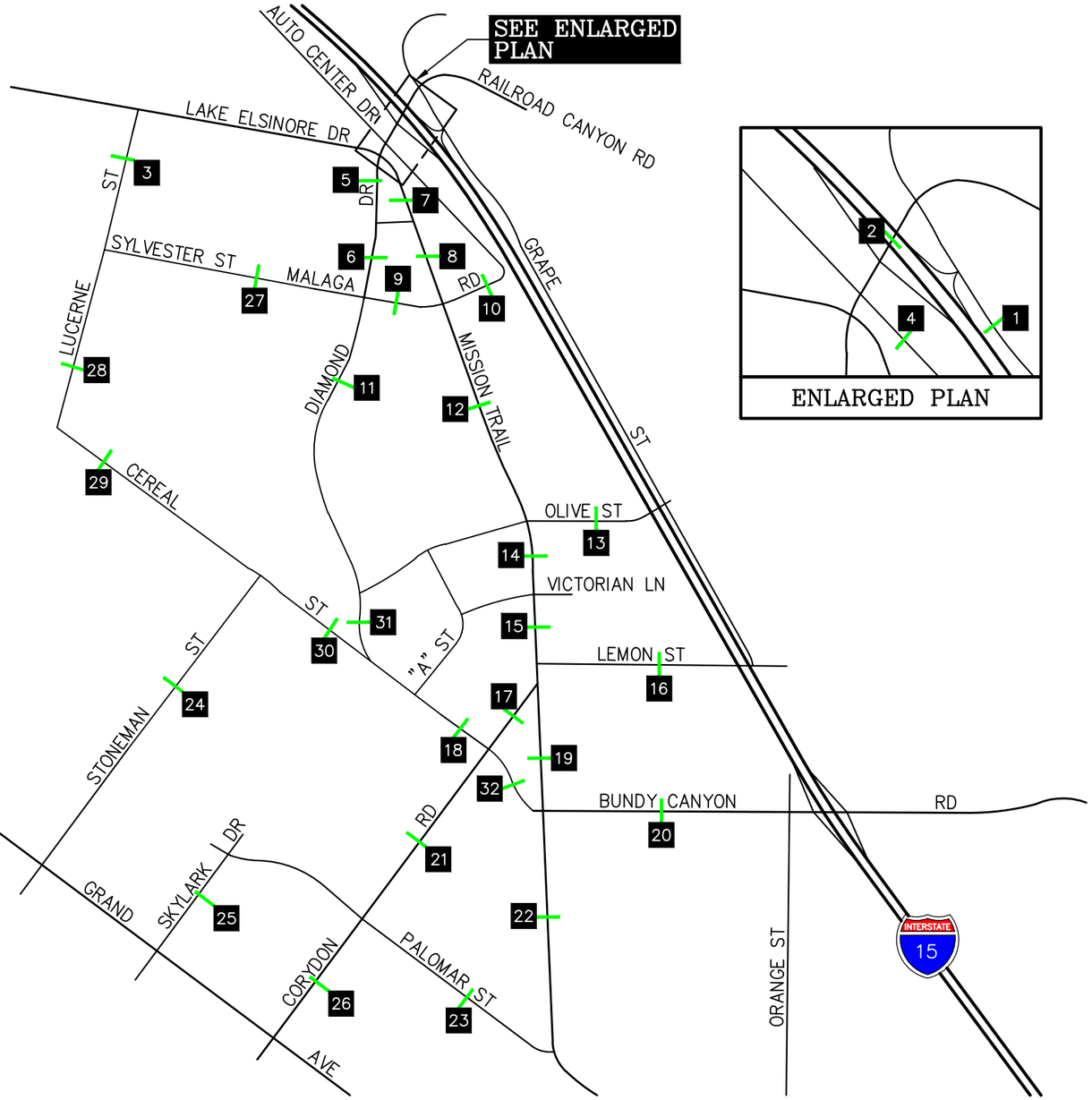
N NO SCALE

KEY

(#) = STUDY INTERSECTION

FIGURE 5-24

YEAR 2040 WITH ELSP PROJECT BUILDOUT
SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	44,090	17	19,513
2	43,951	18	8,048
3	16,695	19	24,592
4	12,352	20	23,734
5	22,269	21	29,572
6	11,556	22	15,466
7	33,497	23	13,572
8	31,662	24	6,808
9	4,024	25	1,374
10	2,754	26	27,633
11	6,413	27	918
12	33,313	28	14,630
13	5,673	29	9,353
14	34,281	30	10,626
15	34,504	31	5,248
16	6,989	32	16,885

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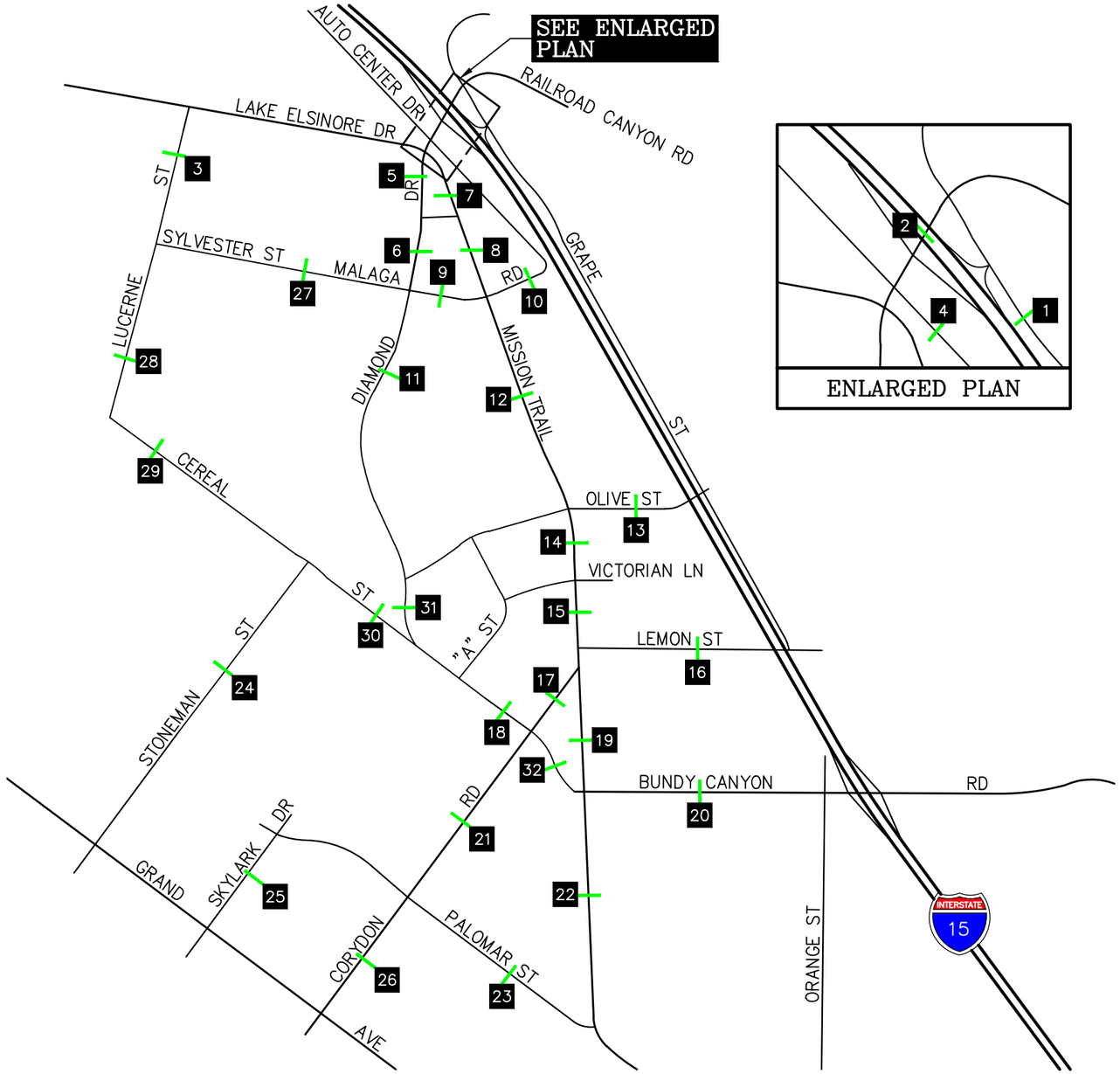
N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-25

YEAR 2040 WITH ELSP PROJECT BUILDOUT
WEEKDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



ENLARGED PLAN

LOCATION	VOLUME	LOCATION	VOLUME
1	52,289	17	18,482
2	47,416	18	10,187
3	16,943	19	21,891
4	11,523	20	22,785
5	23,759	21	28,185
6	11,883	22	13,554
7	30,217	23	11,788
8	32,960	24	6,682
9	4,082	25	1,479
10	2,948	26	25,775
11	6,091	27	974
12	32,648	28	15,280
13	5,522	29	9,605
14	32,917	30	10,659
15	33,121	31	5,089
16	6,529	32	16,700

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N NO SCALE

KEY

= STUDY ROADWAY SEGMENT

FIGURE 5-26

YEAR 2040 WITH ELSP PROJECT BUILDOUT
SATURDAY DAILY TRAFFIC VOLUMES
EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

6.0 EXISTING CONDITIONS TRAFFIC IMPACT ANALYSIS

The existing conditions traffic analysis establishes the basis for the future forecasts for the Project. This analysis was based on existing intersection and roadway segment counts collected in May and December 2016. The existing conditions analysis reflects these counts as well as existing lane configurations for all analyzed intersections and roadway segments.

6.1 Existing Conditions Intersection Capacity Analysis

Table 6-1 summarizes the peak hour Level of Service results at the key study intersections for existing traffic conditions, without and with ELSP Project Buildout. The first column (1) of Delay/LOS values in *Table 6-1* presents a summary of Existing AM, PM and Saturday Midday peak hour traffic conditions. The second column (2) in *Table 6-1* presents forecast Existing With ELSP Project Buildout traffic conditions. The third column (3) of *Table 6-1* shows whether the traffic associated with the ELSP Project Buildout will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fourth column (4) of *Table 6-1* presents the Level of Service with the implementation of traffic mitigation improvements, if necessary.

Planned improvements, which are discussed in more detail in ***Section 9.0*** of this report, have been assumed for the "With ELSP Project Buildout" scenario for the intersection listed below:

- 11. Mission Trail at Olive Street

6.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 6-1* indicates that for the Existing traffic conditions, two (2) of the key study intersections currently operate at unacceptable levels of service during the AM, PM and/or Saturday Midday peak hour when compared to the LOS standards defined in this report. The remaining key study intersections currently operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS
17. Orange Street at Bundy Canyon Road	294.4	F	112.5	F	150.7	F
22. Stoneman Street at Grand Avenue	41.7	E	38.3	E	--	--

6.1.2 *Existing With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (2) of *Table 6-1* indicates that for the Existing With ELSP Project Buildout traffic conditions, six (6) key study intersections are forecast to operate at unacceptable levels of service during the AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

Key Intersection	AM Peak Hour Delay (s/v)	AM Peak Hour LOS	PM Peak Hour Delay (s/v)	PM Peak Hour LOS	Saturday Midday Peak Hour Delay (s/v)	Saturday Midday Peak Hour LOS
5. Lucerne Street at Lakeshore Drive	374.0	F	373.4	F	725.3	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	--	--	--	--	105.4	F
12. Mission Trail at Victorian Lane	--	--	45.5	E	39.4	E
17. Orange Street at Bundy Canyon Road	279.9	F	130.6	F	116.4	F
18. I-15 Southbound Ramps at Bundy Canyon Road	55.3	E	--	--	--	--
22. Stoneman Street at Grand Avenue	66.2	F	56.9	F	--	--

Review of column (3) of *Table 6-1* indicates that six (6) key study intersections will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (4) of *Table 6-1*, the recommended improvements outlined in this report will offset the impact of the Existing With ELSP Project Buildout traffic and bring the significantly impacted intersections to below Existing and/or acceptable conditions at five (5) of the six (6) impacted locations. It should be noted that key study intersection #6, Diamond Drive at Lakeshore Drive/Mission Trail, was mitigated to a feasible extent but does not lower the level of service enough in order to bring below Existing and/or acceptable conditions.

Appendix D contains the Delay/LOS calculation worksheets for the Existing Traffic Conditions.

TABLE 6-1

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[13]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With ELSP Project Buildout Traffic Conditions		(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Railroad Canyon Road at Summerhill Lane/Grape Street	D	Weekday AM	37.1	D	37.5	D	No	--	--
		Weekday PM	46.4	D	47.9	D	No	--	--
		Saturday Midday	39.8	D	40.6	D	No	--	--
2. Railroad Canyon Road at I-15 Northbound Ramps	D	Weekday AM	21.3	C	20.5	C	No	--	--
		Weekday PM	19.8	B	20.0	B	No	--	--
		Saturday Midday	24.1	C	23.9	C	No	--	--
3. Diamond Drive at I-15 Southbound Ramps	D	Weekday AM	36.8	D	41.8	D	No	--	--
		Weekday PM	27.0	C	25.0	C	No	--	--
		Saturday Midday	28.2	C	27.5	C	No	--	--
4. Diamond Drive at Casino Drive/Auto Center Drive	D	Weekday AM	21.7	C	24.7	C	No	--	--
		Weekday PM	20.6	C	22.3	C	No	--	--
		Saturday Midday	21.4	C	26.6	C	No	--	--
5. Lucerne Street at Lakeshore Drive	D	Weekday AM	12.3	B	**374.0**	**F**	**Yes**	23.3	C
		Weekday PM	15.1	C	**373.4**	**F**	**Yes**	21.8	C
		Saturday Midday	12.0	B	**725.3**	**F**	**Yes**	20.5	C
6. Diamond Drive at Lakeshore Drive/Mission Trail	E	Weekday AM	36.5	D	46.7	D	No	46.8	D
		Weekday PM	38.2	D	68.7	E	No	67.7	E
		Saturday Midday	45.9	D	**105.4**	**F**	**Yes**	**103.0**	**F**

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[13] *Appendix D* contains the Delay/LOS calculation worksheets for all study intersections.

TABLE 6-1 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[14]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With ELSP Project Buildout Traffic Conditions		(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
7. Diamond Drive at Campbell Street	E	Weekday AM	8.9	A	9.1	A	No	--	--
		Weekday PM	9.2	A	9.7	A	No	--	--
		Saturday Midday	10.1	B	11.3	B	No	--	--
8. Mission Trail at Campbell Street	E	Weekday AM	17.5	C	17.7	C	No	--	--
		Weekday PM	22.0	C	22.3	C	No	--	--
		Saturday Midday	28.6	D	29.5	D	No	--	--
9. Diamond Drive at Malaga Road	E	Weekday AM	9.9	A	15.1	B	No	--	--
		Weekday PM	13.2	B	16.3	B	No	--	--
		Saturday Midday	16.1	B	21.8	C	No	--	--
10. Mission Trail at Malaga Road	E	Weekday AM	9.2	A	11.2	B	No	--	--
		Weekday PM	14.1	B	30.6	C	No	--	--
		Saturday Midday	15.7	B	17.9	B	No	--	--
11. Mission Trail at Olive Street	D	Weekday AM	5.6	A	8.1	A	No	--	--
		Weekday PM	6.8	A	10.8	B	No	--	--
		Saturday Midday	7.2	A	11.5	B	No	--	--
12. Mission Trail at Victorian Lane	D	Weekday AM	25.3	D	25.2	D	No	3.6	A
		Weekday PM	27.9	D	**45.5**	**E**	**Yes**	5.2	A
		Saturday Midday	26.4	D	**39.4**	**E**	**Yes**	4.5	A

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[14] *Appendix D* contains the Delay/LOS calculation worksheets for all study intersections.

TABLE 6-1 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[15]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With ELSP Project Buildout Traffic Conditions		(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
13. Mission Trail at Lemon Street	D	Weekday AM	8.0	A	8.4	A	No	--	--
		Weekday PM	8.0	A	8.7	A	No	--	--
		Saturday Midday	7.7	A	8.3	A	No	--	--
14. Mission Trail at Corydon Road	D	Weekday AM	19.9	B	22.5	C	No	--	--
		Weekday PM	18.7	B	23.3	C	No	--	--
		Saturday Midday	18.4	B	20.0	C	No	--	--
15. Corydon Road at Cereal Street	D	Weekday AM	13.5	B	22.7	C	No	--	--
		Weekday PM	15.2	C	24.4	C	No	--	--
		Saturday Midday	13.9	B	21.0	C	No	--	--
16. Mission Trail at Bundy Canyon Road	D	Weekday AM	18.9	B	21.5	C	No	--	--
		Weekday PM	24.4	C	24.3	C	No	--	--
		Saturday Midday	20.5	C	21.3	C	No	--	--
17. Orange Street at Bundy Canyon Road	D	Weekday AM	**294.4**	**F**	**279.9**	**F**	**Yes**	52.1	D
		Weekday PM	**112.5**	**F**	**130.6**	**F**	**Yes**	25.5	C
		Saturday Midday	**150.7**	**F**	**116.4**	**F**	**Yes**	26.4	C
18. I-15 Southbound Ramps at Bundy Canyon Road	D	Weekday AM	36.7	D	**55.3**	**E**	**Yes**	53.4	D
		Weekday PM	23.0	C	23.4	C	No	22.1	C
		Saturday Midday	19.8	B	19.5	B	No	19.0	B

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[15] *Appendix D* contains the Delay/LOS calculation worksheets for all study intersections.

TABLE 6-1 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[16]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With ELSP Project Buildout Traffic Conditions		(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
19. I-15 Northbound Ramps at Bundy Canyon Road	D	Weekday AM	23.8	C	25.0	C	No	--	--
		Weekday PM	24.4	C	25.3	C	No	--	--
		Saturday Midday	20.8	C	22.1	C	No	--	--
20. Corydon Road at Palomar Street	D	Weekday AM	16.4	B	17.4	B	No	--	--
		Weekday PM	13.5	B	15.5	B	No	--	--
		Saturday Midday	14.1	B	15.3	B	No	--	--
21. Mission Trail at Palomar Street	D	Weekday AM	13.7	B	14.3	B	No	--	--
		Weekday PM	12.6	B	13.4	B	No	--	--
		Saturday Midday	11.0	B	11.1	B	No	--	--
22. Stoneman Street at Grand Avenue	D	Weekday AM	**41.7**	**E**	**66.2**	**F**	**Yes**	6.9	A
		Weekday PM	**38.3**	**E**	**56.9**	**F**	**Yes**	6.2	A
		Saturday Midday	20.0	C	23.5	C	No	6.2	A
23. Corydon Road at Grand Avenue	D	Weekday AM	13.8	B	13.1	B	No	--	--
		Weekday PM	12.7	B	11.1	B	No	--	--
		Saturday Midday	11.6	B	10.8	B	No	--	--
24. Grape Street at I-15 Northbound Ramps	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions				No	--	--
		Weekday PM					No	--	--
		Saturday Midday					No	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[16] *Appendix D* contains the Delay/LOS calculation worksheets for all study intersections.

TABLE 6-1 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[17]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With ELSP Project Buildout Traffic Conditions		(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
25. Diamond Drive at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		9.0	A	No	--	--
		Weekday PM			9.2	A	No	--	--
		Saturday Midday			9.1	A	No	--	--
26. "A" Street at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		3.5	A	No	--	--
		Weekday PM			3.7	A	No	--	--
		Saturday Midday			3.8	A	No	--	--
27. "A" Street at Victorian Lane	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		3.5	A	No	--	--
		Weekday PM			3.6	A	No	--	--
		Saturday Midday			3.7	A	No	--	--
28. "A" Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		9.0	A	No	--	--
		Weekday PM			9.4	A	No	--	--
		Saturday Midday			9.3	A	No	--	--
29. Lucerne Street at Sylvester Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		12.5	B	No	--	--
		Weekday PM			15.1	C	No	--	--
		Saturday Midday			14.0	B	No	--	--
30. Stoneman Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		23.0	C	No	--	--
		Weekday PM			9.2	A	No	--	--
		Saturday Midday			24.1	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[17] *Appendix D* contains the Delay/LOS calculation worksheets for all study intersections.

6.2 Existing Conditions Roadway Segment Analysis

Table 6-2 summarizes the daily level of service results at the key study roadway segments during a "typical" Weekday and Saturday for the existing traffic conditions without and with the ELSP Project Buildout. The first column (1) of LOS E Capacity values in *Table 6-2* presents the daily roadway segment capacities from the *City of Lake Elsinore General Plan Update Draft Program EIR, dated August 2011*. The second column (2) lists the number of travel lanes and the third column (3) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS). The fourth column (4) in *Table 6-2* forecasts the Existing With ELSP Project Buildout traffic conditions. The fifth column (5) of *Table 6-2* presents the increase in the V/C ratio and indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

6.2.1 *Existing Traffic Conditions*

Review of column (3) of *Table 6-2* indicates that for the Existing traffic conditions, one (1) of the key study roadway segments currently operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments currently operate at acceptable levels of service on daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
17. Corydon Road, *between* Mission Trail and Cereal Street	16,978	0.943	E	--	--	--

6.2.2 *Existing With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (4) of *Table 6-2* indicates that for the Existing With ELSP Project Buildout traffic conditions, two (2) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
17. Corydon Road, *between* Mission Trail and Cereal Street	19,795	1.100	F	19,227	1.068	F
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps	11,968	0.921	E	--	--	--

To determine if the ELSP Project Buildout creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 6-3***, these study roadway segments are forecast to operate at LOS A during the AM, PM and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Existing With ELSP Project Buildout traffic and therefore no improvements are required.

TABLE 6-2

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[18] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
1. Grape Street, *east of* Railroad Canyon Road	Weekday	Major	34,100	4D	20,281	0.595	A	20,406	0.598	A	0.003	No
	Saturday				24,102	0.707	C	24,173	0.709	C	0.002	No
2. Railroad Canyon Road, *between* Summerhill Drive/Grape Street and Lakeshore Drive/Mission Trail	Weekday	Urban Arterial	62,850	7D	26,367	0.420	A	32,190	0.512	A	0.092	No
	Saturday				26,682	0.425	A	33,186	0.528	A	0.103	No
3. Lucerne Street, *south of* Lakeshore Drive	Weekday	Collector	13,000	2U	71	0.005	A	8,967	0.690	B	0.685	No
	Saturday				63	0.005	A	9,571	0.736	C	0.731	No
4. Casino Drive, *east of* Diamond Drive	Weekday	Major	34,100	4D	5,861	0.172	A	5,814	0.170	A	-0.002	No
	Saturday				5,468	0.160	A	5,423	0.159	A	-0.001	No
5. Diamond Drive, *between* Lakeshore Drive/Mission Trail and Campbell Street	Weekday	Major	34,100	4D	4,924	0.144	A	6,716	0.197	A	0.053	No
	Saturday				4,703	0.138	A	6,519	0.191	A	0.053	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[18] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[19] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
6. Diamond Drive, *between* Campbell Street and Malaga Road	Weekday	Major	34,100	4D	3,671	0.108	A	5,131	0.150	A	0.042	No
	Saturday				3,750	0.110	A	5,293	0.155	A	0.045	No
7. Mission Trail, *between* Diamond Drive and Campbell Street	Weekday	Major	34,100	4D	19,238	0.564	A	19,240	0.564	A	0.000	No
	Saturday				16,742	0.491	A	17,775	0.521	A	0.030	No
8. Mission Trail, *between* Campbell Street and Malaga Road	Weekday	Major	34,100	4D	16,132	0.473	A	16,743	0.491	A	0.018	No
	Saturday				16,713	0.490	A	17,550	0.515	A	0.025	No
9. Malaga Road, *between* Diamond Drive and Mission Trail	Weekday	Major	34,100	4D	1,216	0.036	A	2,003	0.059	A	0.023	No
	Saturday				1,238	0.036	A	2,089	0.061	A	0.025	No
10. Malaga Road, *east of* Mission Trail	Weekday	Collector	13,000	2U	2,740	0.211	A	2,740	0.211	A	0.000	No
	Saturday				2,934	0.226	A	2,934	0.226	A	0.000	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[19] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[20] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
11. Diamond Drive, *north of* Summerly Place	Weekday	Major	34,100	4D	703	0.021	A	2,007	0.059	A	0.038	No
	Saturday				636	0.019	A	1,848	0.054	A	0.035	No
12. Mission Trail, *between* Malaga Road and Olive Street	Weekday	Major	34,100	4D	16,593	0.487	A	17,201	0.504	A	0.017	No
	Saturday				16,042	0.470	A	17,184	0.504	A	0.034	No
13. Olive Street, *between* Mission Trail and Grape Street	Weekday	Collector	13,000	2U	2,393	0.184	A	2,248	0.173	A	-0.011	No
	Saturday				2,312	0.178	A	2,191	0.169	A	-0.009	No
14. Mission Trail, *between* Olive Street and Victorian Lane	Weekday	Secondary	25,900	4U	17,898	0.691	B	17,068	0.659	B	-0.032	No
	Saturday				16,952	0.655	B	16,616	0.642	B	-0.013	No
15. Mission Trail, *between* Victorian Lane and Lemon Street	Weekday	Secondary	25,900	4U	18,146	0.701	C	17,891	0.691	B	-0.010	No
	Saturday				17,176	0.663	B	17,467	0.674	B	0.011	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[20] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)
EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[21] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
16. Lemon Street, *between* Mission Trail and Grape Street	Weekday	Collector	13,000	2U	3,253	0.250	A	3,497	0.269	A	0.019	No
	Saturday				3,007	0.231	A	3,293	0.253	A	0.022	No
17. Corydon Road, *between* Mission Trail and Cereal Street	Weekday	Divided Collector	18,000	2D	**16,978**	**0.943**	**E**	**19,795**	**1.100**	**F**	**0.157**	**Yes**
	Saturday				15,639	0.869	D	**19,227**	**1.068**	**F**	**0.199**	**Yes**
18. Cereal Street, *west of* Corydon Road	Weekday	Collector	13,000	2U	445	0.034	A	3,389	0.261	A	0.227	No
	Saturday				711	0.055	A	3,890	0.299	A	0.244	No
19. Mission Trail, *between* Corydon Road and Bundy Canyon Road	Weekday	Major	34,100	4D	13,919	0.408	A	17,102	0.502	A	0.094	No
	Saturday				12,283	0.360	A	15,932	0.467	A	0.107	No
20. Bundy Canyon Road, *between* Mission Trail and I-15 Southbound Ramps	Weekday	Collector	13,000	2U	9,781	0.752	C	**11,968**	**0.921**	**E**	**0.169**	**Yes**
	Saturday				9,107	0.701	C	11,584	0.891	D	0.190	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[21] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[22] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
21. Corydon Road, *between* Cereal Street and Palomar Street	Weekday	Divided Collector	18,000	2D	15,630	0.868	D	16,075	0.893	D	0.025	No
	Saturday				14,481	0.805	D	15,571	0.865	D	0.060	No
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	Weekday	Collector	13,000	2U	8,034	0.618	B	8,749	0.673	B	0.055	No
	Saturday				6,887	0.530	A	7,747	0.596	A	0.066	No
23. Palomar Street, *between* Corydon Road and Mission Trail	Weekday	Collector	13,000	2U	3,221	0.248	A	3,220	0.248	A	0.000	No
	Saturday				2,744	0.211	A	2,954	0.227	A	0.016	No
24. Stoneman Street, *north of* Grand Avenue	Weekday	Collector	13,000	2U	760	0.058	A	2,536	0.195	A	0.137	No
	Saturday				724	0.056	A	2,556	0.197	A	0.141	No
25. Skylark Drive, *north of* Grand Avenue	Weekday	Collector	13,000	2U	220	0.017	A	474	0.036	A	0.019	No
	Saturday				237	0.018	A	511	0.039	A	0.021	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[22] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[23] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
26. Corydon Road, *between* Palomar Street and Grand Avenue	Weekday	Divided Collector	18,000	2D	11,849	0.658	B	9,559	0.531	A	-0.127	No
	Saturday				10,999	0.611	B	8,940	0.497	A	-0.114	No
27. Sylvester Street, *between* Lucerne Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			1,635	0.048	A	0.048	No
	Saturday							1,759	0.052	A	0.052	No
28. Lucerne Street, *between* Sylvester Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			9,814	0.288	A	0.288	No
	Saturday							10,506	0.308	A	0.308	No
29. Cereal Street, *between* Lucerne Street and Stoneman Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			4,399	0.129	A	0.129	No
	Saturday							4,670	0.137	A	0.137	No
30. Cereal Street, *between* Stoneman Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			5,316	0.156	A	0.156	No
	Saturday							5,426	0.159	A	0.159	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[23] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-2 (CONTINUED)

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	(1) LOS E Capacity[24] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Existing With ELSP Project Buildout Traffic Conditions			(5) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
31. Diamond Drive, *between* Olive Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			1,662	0.049	A	0.049	No
	Saturday							1,574	0.046	A	0.046	No
32. Bundy Canyon Road, *between* Corydon Road and Mission Trail	Weekday	Segment Does Not Exist Under Existing and Existing With ELSP Project Buildout Traffic Conditions									--	--
	Saturday										--	--

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[24] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 6-3

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Existing With ELSP Project Buildout Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
17. Corydon Road, *between* Mission Trail and Cereal Street	Divided Arterial	Northbound	Weekday AM	1,600	1	1600	848	0.530	A
			Weekday PM	1,600	1	1600	734	0.459	A
			Saturday Midday	1,600	1	1600	746	0.466	A
		Southbound	Weekday AM	1,600	1	1600	507	0.317	A
			Weekday PM	1,600	1	1600	853	0.533	A
			Saturday Midday	1,600	1	1600	653	0.408	A
20. Bundy Canyon Road, *between* Mission Trail and I-15 Southbound Ramps	Collector	Eastbound	Weekday AM	1,600	1	1600	570	0.356	A
			Weekday PM	1,600	1	1600	553	0.346	A
			Saturday Midday	1,600	1	1600	481	0.301	A
		Westbound	Weekday AM	1,600	1	1600	363	0.227	A
			Weekday PM	1,600	1	1600	559	0.349	A
			Saturday Midday	1,600	1	1600	421	0.263	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

7.0 YEAR 2022 CONDITIONS TRAFFIC IMPACT ANALYSIS

The relative impacts of the added ELSP Project Phase I traffic volumes generated by proposed ELSP Project Phase I during the AM peak hour, PM peak hour, Saturday Midday and Daily conditions was evaluated based on analysis of future Year 2022 operating conditions at twenty-seven (27) key study intersections (three (3) intersections do not exist under Year 2022 traffic conditions) and thirty-two (32) key roadway segments, without and with the proposed ELSP Project Phase I. The previously discussed capacity analysis procedures were utilized to investigate the future Delay/V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the ELSP Project Phase I at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

7.1 Year 2022 Conditions Intersection Capacity Analysis

Table 7-1 summarizes the AM, PM and Saturday Midday peak hour Level of Service results at the key study intersections for the Year 2022 traffic conditions. The first column (1) of Delay/LOS values in *Table 7-1* presents a summary of existing AM, PM and Saturday Midday peak hour traffic conditions (which were also presented in *Table 6-1*). The second column (2) presents forecast Year 2022 Without ELSP Project Phase I traffic conditions and the third column (3) identifies forecast Year 2022 With ELSP Project Phase I traffic conditions. The fourth column (4) indicates whether the traffic associated with the ELSP Project Phase I will have a significant impact based on the significant impact criteria mentioned in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements, where needed, to achieve an acceptable level of service.

Planned improvements, which are discussed in more detail in *Section 9.0* of this report, have been assumed for the "Year 2022 Without and With ELSP Project Phase I" scenarios for the intersections listed below:

- 1. Railroad Canyon Road at Summerhill Road/Grape Street
- 2. Railroad Canyon Road at I-15 NB Ramps
- 3. Diamond Drive at I-15 SB Ramps
- 5. Lucerne Street at Lakeshore Drive
- 11. Mission Trail at Olive Street
- 12. Mission Trail at Victorian Lane
- 15. Corydon Road at Cereal Street
- 16. Mission Trail at Bundy Canyon Road
- 24. Grape Street at I-15 Northbound Ramps
- 25. Diamond Drive at Olive Street
- 26. "A" Street at Olive Street
- 27. "A" Street at Victorian Lane
- 28. "A" Street at Cereal Street

7.1.1 *Year 2022 Without East Lake Specific Plan Project Phase I Traffic Conditions*

Review of column (2) of *Table 7-1* indicates that for the Year 2022 Without ELSP Project Phase I traffic conditions, nine (9) key study intersections are forecast to operate at an unacceptable level of service during the AM, PM and/or Saturday Midday peak hour when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Railroad Canyon Road at Summerhill Lane/Grape Street	64.3	E	165.7	F	341.4	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	--	--	--	--	111.2	F
7. Diamond Drive at Campbell Street	--	--	--	--	124.9	F
8. Mission Trail at Campbell Street	--	--	--	--	47.6	E
9. Diamond Drive at Malaga Road	--	--	--	--	272.0	F
17. Orange Street at Bundy Canyon Road	290.7	F	192.9	F	290.1	F
18. I-15 Southbound Ramps at Bundy Canyon Road	--	--	--	--	64.6	E
22. Stoneman Street at Grand Avenue	336.6	F	419.2	F	--	--
24. Grape Street at I-15 Northbound Ramps	--	--	--	--	253.5	F

7.1.2 *Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions*

Review of column (3) of *Table 7-1* indicates that for the Year 2022 With ELSP Project Phase I traffic conditions, eleven (11) key study intersections are forecast to operate at unacceptable levels of service during the AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Railroad Canyon Road at Summerhill Lane/Grape Street	80.5	F	174.7	F	335.0	F
4. Diamond Drive at Casino Drive/Auto Center Drive	--	--	--	--	84.0	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	--	--	84.8	F	197.0	F
7. Diamond Drive at Campbell Street	--	--	--	--	626.1	F
8. Mission Trail at Campbell Street	--	--	--	--	76.5	F
9. Diamond Drive at Malaga Road	--	--	--	--	322.6	F
15. Corydon Road at Cereal Street	55.7	E	--	--	--	--
17. Orange Street at Bundy Canyon Road	288.1	F	168.8	F	331.3	F
18. I-15 Southbound Ramps at Bundy Canyon Road	65.8	E	--	--	77.7	E

22. Stoneman Street at Grand Avenue	442.0	F	664.7	F	--	--
24. Grape Street at I-15 Northbound Ramps	--	--	--	--	257.1	F

Review of column (4) of *Table 7-1* indicates that eleven (11) key study intersections will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 7-1*, the recommended improvements outlined in this report will offset the impact of the ELSP Project Phase I traffic and bring the significantly impacted intersections to pre-Project and/or acceptable conditions at nine (9) of the eleven (11) impacted locations. It should be noted that key study intersections #1, Railroad Canyon Road at Summerhill Lane/Grape Street, and #6, Diamond Drive at Lakeshore Drive/Mission Trail, were mitigated to a feasible extent but do not lower the level of service to acceptable conditions. It should also be noted that the mitigation for key study intersection #4, Diamond Drive at Casino Drive/Auto Center Drive, is infeasible due to the surrounding parcels preventing the additional needed right-of-way.

Appendix E contains the Delay/LOS calculation worksheets for the Year 2022 Traffic Conditions.

TABLE 7-1

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without ELSP Project Phase I Traffic Conditions		(3) Year 2022 With ELSP Project Phase I Traffic Conditions		(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Railroad Canyon Road at Summerhill Lane/Grape Street	D	Weekday AM	37.1	D	**64.3**	**E**	**80.5**	**F**	**Yes**	42.9	D
		Weekday PM	46.4	D	**165.7**	**F**	**174.7**	**F**	**Yes**	**59.2**	**E**
		Saturday Midday	39.8	D	**341.4**	**F**	**335.0**	**F**	**Yes**	43.9	D
2. Railroad Canyon Road at I-15 Northbound Ramps	D	Weekday AM	21.3	C	Intersection Does Not Exist Under Year 2022 Traffic Conditions Per City's Preferred Alternative Two				No	--	--
		Weekday PM	19.8	B					No	--	--
		Saturday Midday	24.1	C					No	--	--
3. Diamond Drive at I-15 Southbound Ramps	D	Weekday AM	36.8	D	24.7	C	24.0	C	No	--	--
		Weekday PM	27.0	C	24.2	C	23.5	C	No	--	--
		Saturday Midday	28.2	C	29.1	C	35.7	D	No	--	--
4. Diamond Drive at Casino Drive/Auto Center Drive	D	Weekday AM	21.7	C	25.7	C	38.8	D	No	36.5[25]	D
		Weekday PM	20.6	C	26.4	C	51.5	D	No	34.6	C
		Saturday Midday	21.4	C	37.4	D	**84.0**	**F**	**Yes**	46.8	D
5. Lucerne Street at Lakeshore Drive	D	Weekday AM	12.3	B	11.4	B	13.5	B	No	--	--
		Weekday PM	15.1	C	13.8	B	18.5	C	No	--	--
		Saturday Midday	12.0	B	12.2	B	14.3	B	No	--	--
6. Diamond Drive at Lakeshore Drive/Mission Trail	E	Weekday AM	36.5	D	41.1	D	48.7	D	No	43.7	D
		Weekday PM	38.2	D	48.5	D	**84.8**	**F**	**Yes**	**79.4**	**E**
		Saturday Midday	45.9	D	**111.2**	**F**	**197.0**	**F**	**Yes**	**117.3**	**F**[26]

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[25] It should be noted that the mitigation is infeasible due to the surrounding parcels preventing the additional needed right-of-way and the mitigated LOS/Delay is shown only for informational purposes.

[26] Volumes have been rerouted due to the recommended improvement at the intersection of Diamond Drive at Campbell Street during the Saturday Midday peak hour.

TABLE 7-1 (CONTINUED)

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without ELSP Project Phase I Traffic Conditions		(3) Year 2022 With ELSP Project Phase I Traffic Conditions		(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
7. Diamond Drive at Campbell Street	E	Weekday AM	8.9	A	9.0	A	11.4	B	No	--	--
		Weekday PM	9.2	A	10.1	B	12.8	B	No	--	--
		Saturday Midday	10.1	B	**124.9**	**F**	**626.1**	**F**	**Yes**	18.3	C[27]
8. Mission Trail at Campbell Street	E	Weekday AM	17.5	C	19.8	C	23.7	C	No	3.5	A
		Weekday PM	22.0	C	27.1	D	39.9	E	No	5.6	A
		Saturday Midday	28.6	D	**47.6**	**E**	**76.5**	**F**	**Yes**	6.7	A[28]
9. Diamond Drive at Malaga Road	E	Weekday AM	9.9	A	12.9	B	38.2	D	No	31.0	C
		Weekday PM	13.2	B	20.7	C	22.7	C	No	19.7	B
		Saturday Midday	16.1	B	**272.0**	**F**	**322.6**	**F**	**Yes**	43.7	D[28]
10. Mission Trail at Malaga Road	E	Weekday AM	9.2	A	9.2	A	10.0	A	No	--	--
		Weekday PM	14.1	B	15.9	B	16.7	B	No	--	--
		Saturday Midday	15.7	B	57.5	E	72.9	E	No	75.3	E[28]
11. Mission Trail at Olive Street	D	Weekday AM	5.6	A	8.7	A	9.0	A	No	--	--
		Weekday PM	6.8	A	10.6	B	11.2	B	No	--	--
		Saturday Midday	7.2	A	10.7	B	11.8	B	No	--	--
12. Mission Trail at Victorian Lane	D	Weekday AM	25.3	D	2.5	A	2.8	A	No	--	--
		Weekday PM	27.9	D	2.6	A	2.9	A	No	--	--
		Saturday Midday	26.4	D	2.8	A	3.4	A	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[27] The recommended improvement at this location includes the restriction of the southbound left and westbound left movement during the Saturday Midday peak hour. Due to the acceptable LOS during the AM and PM peak hour, no restriction will be required during the weekday AM and PM peak hour.

[28] Volumes have been rerouted due to the recommended improvement at the intersection of Diamond Drive at Campbell Street during the Saturday Midday peak hour.

TABLE 7-1 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without ELSP Project Phase I Traffic Conditions		(3) Year 2022 With ELSP Project Phase I Traffic Conditions		(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
13. Mission Trail at Lemon Street	D	Weekday AM	8.0	A	7.4	A	7.6	A	No	--	--
		Weekday PM	8.0	A	7.1	A	7.4	A	No	--	--
		Saturday Midday	7.7	A	6.3	A	6.9	A	No	--	--
14. Mission Trail at Corydon Road	D	Weekday AM	19.9	B	18.3	B	18.6	B	No	--	--
		Weekday PM	18.7	B	15.6	B	15.9	B	No	--	--
		Saturday Midday	18.4	B	15.8	B	16.6	B	No	--	--
15. Corydon Road at Cereal Street	D	Weekday AM	13.5	B	21.2	C	**55.7**	**E**	**Yes**	29.0	C
		Weekday PM	15.2	C	24.7	C	46.1	D	No	32.7	C
		Saturday Midday	13.9	B	29.6	C	48.4	D	No	29.9	C
16. Mission Trail at Bundy Canyon Road	D	Weekday AM	18.9	B	29.7	C	32.2	C	No	--	--
		Weekday PM	24.4	C	33.1	C	35.1	D	No	--	--
		Saturday Midday	20.5	C	38.9	D	41.7	D	No	--	--
17. Orange Street at Bundy Canyon Road	D	Weekday AM	**294.4**	**F**	**290.7**	**F**	**288.1**	**F**	**Yes**	53.8	D
		Weekday PM	**112.5**	**F**	**192.9**	**F**	**168.8**	**F**	**Yes**	33.0	C
		Saturday Midday	**150.7**	**F**	**290.1**	**F**	**331.3**	**F**	**Yes**	39.9	D
18. I-15 Southbound Ramps at Bundy Canyon Road	D	Weekday AM	36.7	D	44.7	D	**65.8**	**E**	**Yes**	28.5	C
		Weekday PM	23.0	C	24.4	C	29.6	C	No	20.8	C
		Saturday Midday	19.8	B	**64.6**	**E**	**77.7**	**E**	**Yes**	20.1	C

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

TABLE 7-1 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without ELSP Project Phase I Traffic Conditions		(3) Year 2022 With ELSP Project Phase I Traffic Conditions		(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
19. I-15 Northbound Ramps at Bundy Canyon Road	D	Weekday AM	23.8	C	25.7	C	27.9	C	No	--	--
		Weekday PM	24.4	C	26.4	C	29.5	C	No	--	--
		Saturday Midday	20.8	C	23.0	C	24.7	C	No	--	--
20. Corydon Road at Palomar Street	D	Weekday AM	16.4	B	19.8	B	21.5	C	No	--	--
		Weekday PM	13.5	B	20.3	C	22.0	C	No	--	--
		Saturday Midday	14.1	B	17.5	B	20.4	C	No	--	--
21. Mission Trail at Palomar Street	D	Weekday AM	13.7	B	15.4	C	16.8	C	No	--	--
		Weekday PM	12.6	B	13.5	B	15.2	C	No	--	--
		Saturday Midday	11.0	B	12.0	B	12.8	B	No	--	--
22. Stoneman Street at Grand Avenue	D	Weekday AM	**41.7**	**E**	**336.6**	**F**	**442.0**	**F**	**Yes**	13.3	B
		Weekday PM	**38.3**	**E**	**419.2**	**F**	**664.7**	**F**	**Yes**	13.2	B
		Saturday Midday	20.0	C	29.2	D	35.0	D	No	7.4	A
23. Corydon Road at Grand Avenue	D	Weekday AM	13.8	B	15.0	B	15.8	B	No	--	--
		Weekday PM	12.7	B	14.8	B	18.9	B	No	--	--
		Saturday Midday	11.6	B	13.8	B	14.6	B	No	--	--
24. Grape Street at I-15 Northbound Ramps	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		21.7	C	22.8	C	No	24.9	C
		Weekday PM			29.1	C	29.3	C	No	25.4	C
		Saturday Midday			**253.5**	**F**	**257.1**	**F**	**Yes**	26.7	C

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

TABLE 7-1 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without ELSP Project Phase I Traffic Conditions		(3) Year 2022 With ELSP Project Phase I Traffic Conditions		(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
25. Diamond Drive at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		8.6	A	8.8	A	No	--	--
		Weekday PM			8.7	A	9.0	A	No	--	--
		Saturday Midday			8.6	A	9.0	A	No	--	--
26. "A" Street at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		3.3	A	3.4	A	No	--	--
		Weekday PM			3.3	A	3.4	A	No	--	--
		Saturday Midday			3.3	A	3.4	A	No	--	--
27. "A" Street at Victorian Lane	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		3.3	A	3.3	A	No	--	--
		Weekday PM			3.3	A	3.4	A	No	--	--
		Saturday Midday			3.3	A	3.3	A	No	--	--
28. "A" Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		8.7	A	10.1	B	No	--	--
		Weekday PM			8.8	A	11.8	B	No	--	--
		Saturday Midday			8.7	A	10.3	B	No	--	--
29. Lucerne Street at Sylvester Street	D	Weekday AM	Intersection Does Not Exist Under Existing and Year 2022 Traffic Conditions						--	--	--
		Weekday PM							--	--	--
		Saturday Midday							--	--	--
30. Stoneman Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing and Year 2022 Traffic Conditions						--	--	--
		Weekday PM							--	--	--
		Saturday Midday							--	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

7.2 Year 2022 Conditions Roadway Segment Analysis

Table 7-2 summarizes the daily level of service results at the thirty-two (32) key study roadway segments during a "typical" Weekday and Saturday for the Year 2022 traffic conditions. The first column (1) of LOS E Capacity values in *Table 7-2* presents the daily roadway segment capacities from the *City of Lake Elsinore General Plan Update Draft Program EIR, dated August 2011*. The second column (2) lists the number of travel lanes and the third column (3) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS) (which were also presented in *Table 6-2*). The fourth column (4) forecasts Year 2022 Without ELSP Project Phase I traffic conditions. The fifth column (5) in *Table 7-2* forecasts the Year 2022 With ELSP Project Phase I traffic conditions. The sixth column (6) of *Table 7-2* presents the increase in the V/C ratio and indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

Planned improvements, which are discussed in more detail in *Section 9.0* of this report, have been assumed for the "Year 2022 Without and With ELSP Project Phase I" scenarios for the roadway segments listed below:

- 3. Lucerne Street, south of Lakeshore Drive
- 18. Cereal Street, west of Corydon Road
- 32. Bundy Canyon Road, between Corydon Road and Mission Trail
- 27. Sylvester Street, between Lucerne Street and Diamond Drive
- 28. Lucerne Street, between Sylvester Street and Cereal Street
- 29. Cereal Street, between Lucerne Street and Stoneman Street
- 30. Cereal Street, between Stoneman Street and Diamond Drive
- 31. Diamond Drive, between Olive Street and Cereal Street

7.2.1 *Year 2022 Without East Lake Specific Plan Project Phase I Traffic Conditions*

Review of column (4) of *Table 7-2* indicates that for the Year 2022 Without ELSP Project Phase I traffic conditions, four (4) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Grape Street, *east of* Railroad Canyon Road	34,739	1.019	F	41,285	1.211	F
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps	15,480	1.191	F	14,390	1.107	F
21. Corydon Road, *between* Cereal Street and Palomar Street	20,308	1.128	F	18,803	1.045	F
26. Corydon Road, *between* Palomar Street and Grand Avenue	16,459	0.914	E	--	--	--

7.2.2 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

Review of column (5) of *Table 7-2* indicates that for the Year 2022 With ELSP Project Phase I traffic conditions, six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Grape Street, *east of* Railroad Canyon Road	35,311	1.036	F	41,902	1.229	F
15. Mission Trail, *between* Victorian Lane and Lemon Street	23,456	0.906	E	--	--	--
17. Corydon Road, *between* Mission Trail and Cereal Street	17,177	0.954	E	--	--	--
20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps	19,789	1.522	F	19,035	1.464	F
21. Corydon Road, *between* Cereal Street and Palomar Street	23,915	1.329	F	22,691	1.261	F
26. Corydon Road, *between* Palomar Street and Grand Avenue	17,681	0.982	E	16,582	0.921	E

To determine if the ELSP Project Phase I creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 7-3***, these study roadway segments are forecast to operate at LOS D or better during the AM, PM and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2022 With ELSP Project Phase I traffic and therefore no improvements are required.

TABLE 7-2

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[29] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
1. Grape Street, *east of* Railroad Canyon Road	Weekday	Major	34,100	4D	20,281	0.595	A	**34,739**	**1.019**	**F**	**35,311**	**1.036**	**F**	**0.017**	**Yes**
	Saturday				24,102	0.707	C	**41,285**	**1.211**	**F**	**41,902**	**1.229**	**F**	**0.018**	**Yes**
2. Railroad Canyon Road, *between* Summerhill Drive/Grape Street and Lakeshore Drive/Mission Trail	Weekday	Urban Arterial	62,850	7D	26,367	0.420	A	17,049	0.271	A	22,993	0.366	A	0.095	No
	Saturday				26,682	0.425	A	19,699	0.313	A	26,106	0.415	A	0.102	No
3. Lucerne Street, *south of* Lakeshore Drive	Weekday	Major	34,100	4D	71	0.005	A	71	0.002	A	71	0.002	A	0.000	No
	Saturday				63	0.005	A	63	0.002	A	63	0.002	A	0.000	No
4. Casino Drive, *east of* Diamond Drive	Weekday	Major	34,100	4D	5,861	0.172	A	7,289	0.214	A	7,293	0.214	A	0.000	No
	Saturday				5,468	0.160	A	6,800	0.199	A	6,804	0.200	A	0.001	No
5. Diamond Drive, *between* Lakeshore Drive/Mission Trail and Campbell Street	Weekday	Major	34,100	4D	4,924	0.144	A	9,129	0.268	A	17,371	0.509	A	0.241	No
	Saturday				4,703	0.138	A	10,998	0.323	A	19,882	0.583	A	0.260	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[29] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[30] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
6. Diamond Drive, *between* Campbell Street and Malaga Road	Weekday	Major	34,100	4D	3,671	0.108	A	4,826	0.142	A	13,951	0.409	A	0.267	No
	Saturday				3,750	0.110	A	4,887	0.143	A	14,723	0.432	A	0.289	No
7. Mission Trail, *between* Diamond Drive and Campbell Street	Weekday	Major	34,100	4D	19,238	0.564	A	20,603	0.604	B	23,182	0.680	B	0.076	No
	Saturday				16,742	0.491	A	17,976	0.527	A	20,756	0.609	B	0.082	No
8. Mission Trail, *between* Campbell Street and Malaga Road	Weekday	Major	34,100	4D	16,132	0.473	A	18,252	0.535	A	21,103	0.619	B	0.084	No
	Saturday				16,713	0.490	A	18,889	0.554	A	21,962	0.644	B	0.090	No
9. Malaga Road, *between* Diamond Drive and Mission Trail	Weekday	Major	34,100	4D	1,216	0.036	A	2,210	0.065	A	2,831	0.083	A	0.018	No
	Saturday				1,238	0.036	A	2,213	0.065	A	2,882	0.085	A	0.020	No
10. Malaga Road, *east of* Mission Trail	Weekday	Collector	13,000	2U	2,740	0.211	A	2,745	0.211	A	2,751	0.212	A	0.001	No
	Saturday				2,934	0.226	A	2,940	0.226	A	2,946	0.227	A	0.001	No

Notes:

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- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[30] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[31] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
11. Diamond Drive, *north of* Summerly Place	Weekday	Major	34,100	4D	703	0.021	A	1,039	0.030	A	1,778	0.052	A	0.022	No
	Saturday				636	0.019	A	927	0.027	A	1,724	0.051	A	0.024	No
12. Mission Trail, *between* Malaga Road and Olive Street	Weekday	Major	34,100	4D	16,593	0.487	A	18,750	0.550	A	21,521	0.631	B	0.081	No
	Saturday				16,042	0.470	A	18,063	0.530	A	21,050	0.617	B	0.087	No
13. Olive Street, *between* Mission Trail and Grape Street	Weekday	Collector	13,000	2U	2,393	0.184	A	3,766	0.290	A	3,993	0.307	A	0.017	No
	Saturday				2,312	0.178	A	3,639	0.280	A	3,884	0.299	A	0.019	No
14. Mission Trail, *between* Olive Street and Victorian Lane	Weekday	Secondary	25,900	4U	17,898	0.691	B	21,028	0.812	D	23,260	0.898	D	0.086	No
	Saturday				16,952	0.655	B	19,862	0.767	C	22,268	0.860	D	0.093	No
15. Mission Trail, *between* Victorian Lane and Lemon Street	Weekday	Secondary	25,900	4U	18,146	0.701	C	21,207	0.819	D	**23,456**	**0.906**	**E**	**0.087**	**Yes**
	Saturday				17,176	0.663	B	20,020	0.773	C	22,444	0.867	D	0.094	No

Notes:

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- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[31] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[32] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
16. Lemon Street, *between* Mission Trail and Grape Street	Weekday	Collector	13,000	2U	3,253	0.250	A	3,033	0.233	A	3,342	0.257	A	0.024	No
	Saturday				3,007	0.231	A	2,803	0.216	A	3,136	0.241	A	0.025	No
17. Corydon Road, *between* Mission Trail and Cereal Street	Weekday	Divided Collector	18,000	2D	**16,978**	**0.943**	**E**	15,074	0.837	D	**17,177**	**0.954**	**E**	**0.117**	**Yes**
	Saturday				15,639	0.869	D	13,872	0.771	C	16,139	0.897	D	0.126	No
18. Cereal Street, *west of* Corydon Road	Weekday	Major	34,100	4D	445	0.034	A	918	0.027	A	6,591	0.193	A	0.166	No
	Saturday				711	0.055	A	1,466	0.043	A	7,581	0.222	A	0.179	No
19. Mission Trail, *between* Corydon Road and Bundy Canyon Road	Weekday	Major	34,100	4D	13,919	0.408	A	14,576	0.427	A	15,196	0.446	A	0.019	No
	Saturday				12,283	0.360	A	12,848	0.377	A	13,516	0.396	A	0.019	No
20. Bundy Canyon Road, *between* Mission Trail and I-15 Southbound Ramps	Weekday	Collector	13,000	2U	9,781	0.752	C	**15,480**	**1.191**	**F**	**19,789**	**1.522**	**F**	**0.331**	**Yes**
	Saturday				9,107	0.701	C	**14,390**	**1.107**	**F**	**19,035**	**1.464**	**F**	**0.357**	**Yes**

Notes:

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- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[32] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[33] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
21. Corydon Road, *between* Cereal Street and Palomar Street	Weekday	Divided Collector	18,000	2D	15,630	0.868	D	**20,308**	**1.128**	**F**	**23,915**	**1.329**	**F**	**0.201**	**Yes**
	Saturday				14,481	0.805	D	**18,803**	**1.045**	**F**	**22,691**	**1.261**	**F**	**0.216**	**Yes**
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	Weekday	Collector	13,000	2U	8,034	0.618	B	9,350	0.719	C	10,491	0.807	D	0.088	No
	Saturday				6,887	0.530	A	8,006	0.616	B	9,236	0.710	C	0.094	No
23. Palomar Street, *between* Corydon Road and Mission Trail	Weekday	Collector	13,000	2U	3,221	0.248	A	3,843	0.296	A	4,337	0.334	A	0.038	No
	Saturday				2,744	0.211	A	3,274	0.252	A	3,806	0.293	A	0.041	No
24. Stoneman Street, *north of* Grand Avenue	Weekday	Collector	13,000	2U	760	0.058	A	760	0.058	A	760	0.058	A	0.000	No
	Saturday				724	0.056	A	724	0.056	A	724	0.056	A	0.000	No
25. Skylark Drive, *north of* Grand Avenue	Weekday	Collector	13,000	2U	220	0.017	A	2,063	0.159	A	2,063	0.159	A	0.000	No
	Saturday				237	0.018	A	2,222	0.171	A	2,222	0.171	A	0.000	No

Notes:

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- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[33] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[34] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
26. Corydon Road, *between* Palomar Street and Grand Avenue	Weekday	Divided Collector	18,000	2D	11,849	0.658	B	**16,459**	**0.914**	**E**	**17,681**	**0.982**	**E**	**0.068**	**Yes**
	Saturday				10,999	0.611	B	15,265	0.848	D	**16,582**	**0.921**	**E**	**0.073**	**Yes**
27. Sylvester Street, *between* Lucerne Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			710	0.021	A	9,894	0.290	A	0.269	No
	Saturday							672	0.020	A	10,571	0.310	A	0.290	No
28. Lucerne Street, *between* Sylvester Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			244	0.007	A	8,623	0.253	A	0.246	No
	Saturday							231	0.007	A	9,263	0.272	A	0.265	No
29. Cereal Street, *between* Lucerne Street and Stoneman Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			244	0.007	A	5,602	0.164	A	0.157	No
	Saturday							231	0.007	A	6,006	0.176	A	0.169	No
30. Cereal Street, *between* Stoneman Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			244	0.007	A	5,602	0.164	A	0.157	No
	Saturday							231	0.007	A	6,006	0.176	A	0.169	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[34] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-2 (CONTINUED)
YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Year 2022 Type of Arterial	(1) LOS E Capacity[35] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2022 Without ELSP Project Phase I Traffic Conditions			(5) Year 2022 With ELSP Project Phase I Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
31. Diamond Drive, *between* Olive Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			812	0.024	A	1,597	0.047	A	0.023	No
	Saturday							769	0.023	A	1,615	0.047	A	0.024	No
32. Bundy Canyon Road, *between* Corydon Road and Mission Trail	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			6,702	0.197	A	11,699	0.343	A	0.146	No
	Saturday							6,348	0.186	A	11,734	0.344	A	0.158	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[35] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 7-3

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Year 2022 With ELSP Project Phase I Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Grape Street, *east of* Railroad Canyon Road	Major	Eastbound	Weekday AM	1,600	2	3200	780	0.244	A
			Weekday PM	1,600	2	3200	769	0.240	A
			Saturday Midday	1,600	2	3200	1,689	0.528	A
		Westbound	Weekday AM	1,600	2	3200	1,094	0.342	A
			Weekday PM	1,600	2	3200	1,447	0.452	A
			Saturday Midday	1,600	2	3200	1,536	0.480	A
15. Mission Trail, *between* Victorian Lane and Lemon Street	Secondary	Northbound	Weekday AM	1,600	2	3200	897	0.280	A
			Weekday PM	1,600	2	3200	898	0.281	A
			Saturday Midday	1,600	2	3200	984	0.308	A
		Southbound	Weekday AM	1,600	2	3200	697	0.218	A
			Weekday PM	1,600	2	3200	1,091	0.341	A
			Saturday Midday	1,600	2	3200	1,540	0.481	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

TABLE 7-3 (CONTINUED)

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Year 2022 With ELSP Project Phase I Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
17. Corydon Road, *between* Mission Trail and Cereal Street	Divided Arterial	Northbound	Weekday AM	1,600	1	1600	674	0.211	A
			Weekday PM	1,600	1	1600	620	0.388	A
			Saturday Midday	1,600	1	1600	676	0.423	A
		Southbound	Weekday AM	1,600	1	1600	504	0.315	A
			Weekday PM	1,600	1	1600	790	0.494	A
			Saturday Midday	1,600	1	1600	565	0.353	A
20. Bundy Canyon Road, *between* Mission Trail and I-15 Southbound Ramps	Collector	Eastbound	Weekday AM	1,600	1	1600	823	0.514	A
			Weekday PM	1,600	1	1600	866	0.541	A
			Saturday Midday	1,600	1	1600	1,427	0.892	D
		Westbound	Weekday AM	1,600	1	1600	583	0.364	A
			Weekday PM	1,600	1	1600	851	0.532	A
			Saturday Midday	1,600	1	1600	732	0.458	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

TABLE 7-3 (CONTINUED)

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Year 2022 With ELSP Project Phase I Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
21. Corydon Road, *between* Cereal Street and Palomar Street	Divided Collector	Northbound	Weekday AM	1,600	1	1600	980	0.613	B
			Weekday PM	1,600	1	1600	883	0.552	A
			Saturday Midday	1,600	1	1600	908	0.568	A
		Southbound	Weekday AM	1,600	1	1600	649	0.406	A
			Weekday PM	1,600	1	1600	921	0.576	A
			Saturday Midday	1,600	1	1600	802	0.501	A
26. Corydon Road, *between* Palomar Street and Grand Avenue	Divided Collector	Northbound	Weekday AM	1,600	1	1600	878	0.549	A
			Weekday PM	1,600	1	1600	714	0.446	A
			Saturday Midday	1,600	1	1600	790	0.494	A
		Southbound	Weekday AM	1,600	1	1600	562	0.351	A
			Weekday PM	1,600	1	1600	660	0.413	A
			Saturday Midday	1,600	1	1600	657	0.411	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

8.0 YEAR 2040 CONDITIONS TRAFFIC IMPACT ANALYSIS

The relative impacts of the added ELSP Project Buildout traffic volumes generated by proposed ELSP Project Buildout during the AM peak hour, PM peak hour, Saturday Midday peak hour and Daily conditions was evaluated based on analysis of future Year 2040 operating conditions at the thirty (30) key study intersections and thirty-two (32) key roadway segments, with Adopted Specific Plan and with the proposed ELSP Project Buildout. The previously discussed capacity analysis procedures were utilized to investigate the future Delay/V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the ELSP Project Buildout at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

8.1 Year 2040 Conditions Intersection Capacity Analysis

Table 8-1 summarizes the AM, PM and Saturday Midday peak hour Level of Service results at the thirty (30) key study intersections for the Year 2040 traffic conditions. The first column (1) of Delay/LOS values in *Table 8-1* presents a summary of existing AM, PM and Saturday Midday peak hour traffic conditions. The second column (2) presents forecast Year 2040 With Adopted Specific Plan traffic conditions and the third column (3) identifies forecast Year 2040 With ELSP Project Buildout traffic conditions. The fourth column (4) indicates whether the traffic associated with the ELSP Project Buildout will have a significant impact based on the significant impact criteria mentioned in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements, where needed, to achieve an acceptable level of service.

Planned improvements, which are discussed in more detail in *Section 9.0* of this report, have been assumed for the Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout scenarios for the intersections listed below:

- 1. Railroad Canyon Road at Summerhill Road/Grape Street
- 2. Railroad Canyon Road at I-15 NB Ramps
- 3. Diamond Drive at I-15 SB Ramps
- 5. Lucerne Street at Lakeshore Drive
- 6. Diamond Drive at Lakeshore Drive/Mission Trail
- 8. Mission Trail at Campbell Street
- 10. Mission Trail at Malaga Road
- 11. Mission Trail at Olive Street
- 12. Mission Trail at Victorian Lane
- 13. Mission Trail at Lemon Street
- 15. Corydon Road at Cereal Street
- 16. Mission Trail at Bundy Canyon Road
- 17. Orange Street at Bundy Canyon Road
- 18. I-15 SB Ramps at Bundy Canyon Road

- 19. I-15 NB Ramps at Bundy Canyon Road
- 20. Corydon Road at Palomar Street
- 21. Mission Trail at Palomar Street
- 22. Stoneman Street at Grand Avenue
- 23. Corydon Road at Grand Avenue
- 24. Grape Street at I-15 NB Ramps
- 25. Diamond Drive at Olive Street
- 26. "A" Street at Olive Street
- 27. "A" Street at Victorian Lane
- 28. "A" Street at Cereal Street
- 29. Lucerne Street at Sylvester Street
- 30. Stoneman Street at Cereal Street

8.1.1 *Year 2040 With Adopted Specific Plan Traffic Conditions*

Review of column (2) of *Table 8-1* indicates that for the Year 2040 With Adopted Specific Plan traffic conditions, fifteen (15) key study intersections are forecast to operate at an unacceptable level of service during the AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Railroad Canyon Road at Summerhill Lane/Grape Street	178.9	F	280.6	F	387.5	F
3. Diamond Drive at I-15 Southbound Ramps	--	--	--	--	98.1	F
4. Diamond Drive at Casino Drive/Auto Center Drive	164.6	F	254.9	F	273.5	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	265.9	F	344.1	F	499.0	F
7. Diamond Drive at Campbell Street	--	--	--	--	5,294.2	F
8. Mission Trail at Campbell Street	--	--	235.3	F	451.1	F
9. Diamond Drive at Malaga Road	--	--	--	--	158.9	F
10. Mission Trail at Malaga Road	--	--	--	--	91.4	F
15. Corydon Road at Cereal Street	--	--	61.3	E	--	--
17. Orange Street at Bundy Canyon Road	59.9	E	55.6	E	55.7	E
18. I-15 Southbound Ramps at Bundy Canyon Road	86.5	F	--	--	82.2	F
21. Mission Trail at Palomar Street	87.0	F	110.0	F	58.5	E
22. Stoneman Street at Grand Avenue	57.4	E	--	--	--	--
24. Grape Street at I-15 Northbound Ramps	72.8	E	74.5	E	340.4	F
25. Diamond Drive at Olive Street	--	--	48.0	E	41.9	F

8.1.2 *Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (3) of *Table 8-1* indicates that for the Year 2040 With ELSP Project Buildout traffic conditions, eleven (11) key study intersections are forecast to operate at unacceptable levels of service during the AM, PM and/or Saturday Midday peak hours when compared to the LOS standards defined in this report. The remaining key study intersections are forecast to operate at acceptable levels of service during the AM, PM and Saturday Midday peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Railroad Canyon Road at Summerhill Lane/Grape Street	162.0	F	271.8	F	383.1	F
3. Diamond Drive at I-15 Southbound Ramps	--	--	--	--	87.2	F
4. Diamond Drive at Casino Drive/Auto Center Drive	124.8	F	209.0	F	213.5	F
6. Diamond Drive at Lakeshore Drive/Mission Trail	237.7	F	308.6	F	440.0	F
7. Diamond Drive at Campbell Street	--	--	--	--	3,158.4	F
8. Mission Trail at Campbell Street	--	--	101.2	F	183.2	F
9. Diamond Drive at Malaga Road	--	--	--	--	194.2	F
18. I-15 Southbound Ramps at Bundy Canyon Road	70.7	E	--	--	72.9	E
21. Mission Trail at Palomar Street	76.6	E	108.1	F	--	--
22. Stoneman Street at Grand Avenue	56.7	E	--	--	--	--
24. Grape Street at I-15 Northbound Ramps	70.6	E	73.5	E	341.8	F

Review of column (4) of *Table 8-1* indicates that eleven (11) key study intersections will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 8-1*, the recommended improvements outlined in this report will offset the impact of the ELSP Project Buildout traffic and bring the significantly impacted intersections to below Adopted Specific Plan and/or acceptable conditions at ten (10) of the eleven (11) impacted locations. It should be noted that mitigation for key study intersection #4, Diamond Drive at Casino Drive/Auto Center Drive, is infeasible due to the surrounding parcels preventing the additional needed right-of-way.

Appendix F contains the Delay/LOS calculation worksheets for the Year 2040 Traffic Conditions.

TABLE 8-1

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 With Adopted Specific Plan Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions		(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Railroad Canyon Road at Summerhill Lane/Grape Street	D	Weekday AM	37.1	D	**178.9**	**F**	**162.0**	**F**	**Yes**	**109.1**	**F**
		Weekday PM	46.4	D	**280.6**	**F**	**271.8**	**F**	**Yes**	**115.7**	**F**
		Saturday Midday	39.8	D	**387.5**	**F**	**383.1**	**F**	**Yes**	**116.7**	**F**
2. Railroad Canyon Road at I-15 Northbound Ramps	D	Weekday AM	21.3	C	Intersection Does Not Exist Under Year 2040 Traffic Conditions Per City's Preferred Alternative Two				No	--	--
		Weekday PM	19.8	B					No	--	--
		Saturday Midday	24.1	C					No	--	--
3. Diamond Drive at I-15 Southbound Ramps	D	Weekday AM	36.8	D	30.2	C	25.6	C	No	24.4	C
		Weekday PM	27.0	C	35.9	D	34.0	C	No	30.8	C
		Saturday Midday	28.2	C	**98.1**	**F**	**87.2**	**F**	**Yes**	49.1	D
4. Diamond Drive at Casino Drive/Auto Center Drive	D	Weekday AM	21.7	C	**164.6**	**F**	**124.8**	**F**	**Yes**	28.1[36]	C
		Weekday PM	20.6	C	**254.9**	**F**	**209.0**	**F**	**Yes**	42.1	D
		Saturday Midday	21.4	C	**273.5**	**F**	**213.5**	**F**	**Yes**	54.1	D
5. Lucerne Street at Lakeshore Drive	D	Weekday AM	12.3	B	19.3	B	21.9	C	No	--	--
		Weekday PM	15.1	C	25.2	C	44.7	D	No	--	--
		Saturday Midday	12.0	B	22.8	C	52.2	D	No	--	--
6. Diamond Drive at Lakeshore Drive/Mission Trail	E	Weekday AM	36.5	D	**265.9**	**F**	**237.7**	**F**	**Yes**	**206.7**	**F**
		Weekday PM	38.2	D	**344.1**	**F**	**308.6**	**F**	**Yes**	**271.8**	**F**
		Saturday Midday	45.9	D	**499.0**	**F**	**440.0**	**F**	**Yes**	**372.4**	**F**[37]

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[36] It should be noted that the mitigation is infeasible due to the surrounding parcels preventing the additional needed right-of-way and the mitigated LOS/Delay is shown only for informational purposes.

[37] Volumes have been rerouted due to the recommended improvement at the intersection of Diamond Drive at Campbell Street during the Saturday Midday peak hour.

TABLE 8-1 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 With Adopted Specific Plan Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions		(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
7. Diamond Drive at Campbell Street	E	Weekday AM	8.9	A	12.7	B	11.1	B	No	--	--
		Weekday PM	9.2	A	21.5	C	16.8	C	No	--	--
		Saturday Midday	10.1	B	**5,294.2**	**F**	**3,158.4**	**F**	**Yes**	27.8	D[38]
8. Mission Trail at Campbell Street	E	Weekday AM	17.5	C	48.4	E	36.2	E	No	2.9	A
		Weekday PM	22.0	C	**235.3**	**F**	**101.2**	**F**	**Yes**	4.6	A
		Saturday Midday	28.6	D	**451.1**	**F**	**183.2**	**F**	**Yes**	6.8	A[39]
9. Diamond Drive at Malaga Road	E	Weekday AM	9.9	A	9.8	A	13.5	B	No	13.4	B
		Weekday PM	13.2	B	16.9	B	17.3	B	No	15.8	B
		Saturday Midday	16.1	B	**158.9**	**F**	**194.2**	**F**	**Yes**	35.1	D[39]
10. Mission Trail at Malaga Road	E	Weekday AM	9.2	A	10.0	B	10.4	B	No	--	--
		Weekday PM	14.1	B	22.3	C	18.3	B	No	--	--
		Saturday Midday	15.7	B	**91.4**	**F**	79.4	E	No	79.5	E[39]
11. Mission Trail at Olive Street	D	Weekday AM	5.6	A	9.5	A	9.3	A	No	--	--
		Weekday PM	6.8	A	12.9	B	12.2	B	No	--	--
		Saturday Midday	7.2	A	13.1	B	12.3	B	No	--	--
12. Mission Trail at Victorian Lane	D	Weekday AM	25.3	D	3.7	A	3.3	A	No	--	--
		Weekday PM	27.9	D	4.4	A	3.9	A	No	--	--
		Saturday Midday	26.4	D	4.9	A	4.0	A	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

[38] The recommended improvement at this location includes the restriction of the southbound left and westbound left movement during the Saturday Midday peak hour. Due to the acceptable LOS during the AM and PM peak hour, no restrictions will be required during the weekday AM and PM peak hour.

[39] Volumes have been rerouted due to the recommended improvement at the intersection of Diamond Drive at Campbell Street during the Saturday Midday peak hour.

TABLE 8-1 (CONTINUED)
YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 With Adopted Specific Plan Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions		(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
13. Mission Trail at Lemon Street	D	Weekday AM	8.0	A	12.5	B	11.7	B	No	--	--
		Weekday PM	8.0	A	12.3	B	11.6	B	No	--	--
		Saturday Midday	7.7	A	12.9	B	12.2	B	No	--	--
14. Mission Trail at Corydon Road	D	Weekday AM	19.9	B	16.9	B	16.5	B	No	--	--
		Weekday PM	18.7	B	15.2	B	14.9	B	No	--	--
		Saturday Midday	18.4	B	18.1	B	17.7	B	No	--	--
15. Corydon Road at Cereal Street	D	Weekday AM	13.5	B	30.1	C	25.5	C	No	--	--
		Weekday PM	15.2	C	**61.3**	**E**	43.1	D	No	--	--
		Saturday Midday	13.9	B	35.0	D	32.2	C	No	--	--
16. Mission Trail at Bundy Canyon Road	D	Weekday AM	18.9	B	40.2	D	37.5	D	No	--	--
		Weekday PM	24.4	C	51.5	D	47.9	D	No	--	--
		Saturday Midday	20.5	C	47.6	D	43.5	D	No	--	--
17. Orange Street at Bundy Canyon Road	D	Weekday AM	**294.4**	**F**	**59.9**	**E**	54.9	D	No	--	--
		Weekday PM	**112.5**	**F**	**55.6**	**E**	50.6	D	No	--	--
		Saturday Midday	**150.7**	**F**	**55.7**	**E**	52.5	D	No	--	--
18. I-15 Southbound Ramps at Bundy Canyon Road	D	Weekday AM	36.7	D	**86.5**	**F**	**70.7**	**E**	**Yes**	27.1	C
		Weekday PM	23.0	C	48.1	D	43.7	D	No	21.8	C
		Saturday Midday	19.8	B	**82.2**	**F**	**72.9**	**E**	**Yes**	21.9	C

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

TABLE 8-1 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 With Adopted Specific Plan Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions		(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
19. I-15 Northbound Ramps at Bundy Canyon Road	D	Weekday AM	23.8	C	25.5	C	28.4	C	No	--	--
		Weekday PM	24.4	C	41.7	D	33.4	C	No	--	--
		Saturday Midday	20.8	C	27.4	C	25.6	C	No	--	--
20. Corydon Road at Palomar Street	D	Weekday AM	16.4	B	30.0	C	26.9	C	No	--	--
		Weekday PM	13.5	B	25.5	C	25.2	C	No	--	--
		Saturday Midday	14.1	B	19.9	B	20.0	C	No	--	--
21. Mission Trail at Palomar Street	D	Weekday AM	13.7	B	**87.0**	**F**	**76.6**	**E**	**Yes**	27.1	C
		Weekday PM	12.6	B	**110.0**	**F**	**108.1**	**F**	**Yes**	30.8	C
		Saturday Midday	11.0	B	**58.5**	**E**	35.7	D	No	24.5	C
22. Stoneman Street at Grand Avenue	D	Weekday AM	**41.7**	**E**	**57.4**	**E**	**56.7**	**E**	**Yes**	52.2	D
		Weekday PM	**38.3**	**E**	46.9	D	44.3	D	No	37.4	D
		Saturday Midday	20.0	C	26.8	C	26.1	C	No	27.8	C
23. Corydon Road at Grand Avenue	D	Weekday AM	13.8	B	23.6	C	23.3	C	No	--	--
		Weekday PM	12.7	B	29.1	C	29.6	C	No	--	--
		Saturday Midday	11.6	B	19.5	B	19.5	B	No	--	--
24. Grape Street at I-15 Northbound Ramps	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		**72.8**	**E**	**70.6**	**E**	**Yes**	25.8	C
		Weekday PM			**74.5**	**E**	**73.5**	**E**	**Yes**	24.2	C
		Saturday Midday			**340.4**	**F**	**341.8**	**F**	**Yes**	25.7	C

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

TABLE 8-1 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 With Adopted Specific Plan Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions		(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
25. Diamond Drive at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		14.2	B	10.3	B	No	--	--
		Weekday PM			**48.0**	**E**	11.6	B	No	--	--
		Saturday Midday			**41.9**	**F**	11.0	B	No	--	--
26. "A" Street at Olive Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		5.4	A	3.6	A	No	--	--
		Weekday PM			6.7	A	3.9	A	No	--	--
		Saturday Midday			7.4	A	4.0	A	No	--	--
27. "A" Street at Victorian Lane	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		4.3	A	3.4	A	No	--	--
		Weekday PM			5.1	A	3.5	A	No	--	--
		Saturday Midday			5.2	A	3.6	A	No	--	--
28. "A" Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		15.9	C	10.8	B	No	--	--
		Weekday PM			32.7	D	13.8	B	No	--	--
		Saturday Midday			17.3	C	11.9	B	No	--	--
29. Lucerne Street at Sylvester Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		15.8	C	17.9	C	No	--	--
		Weekday PM			21.6	C	26.8	D	No	--	--
		Saturday Midday			18.8	C	30.8	D	No	--	--
30. Stoneman Street at Cereal Street	D	Weekday AM	Intersection Does Not Exist Under Existing Traffic Conditions		25.5	C	23.9	C	No	--	--
		Weekday PM			25.9	C	23.0	C	No	--	--
		Saturday Midday			28.8	C	25.5	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay); **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions

8.2 Year 2040 Conditions Roadway Segment Analysis

Table 8-2 summarizes the daily level of service results at the thirty-two (32) key study roadway segments during a "typical" Weekday and Saturday for the Year 2040 traffic conditions. The first column (1) of LOS E Capacity values in *Table 8-2* presents the daily roadway segment capacities from the *City of Lake Elsinore General Plan Update Draft Program EIR, dated August 2011*. The second column (2) lists the number of travel lanes and the third column (3) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS) (which were also presented in *Tables 7-2* and *8-2*). The fourth column (4) forecasts Year 2040 With Adopted Specific Plan traffic conditions. The fifth column (5) in *Table 8-2* forecasts the Year 2040 With ELSP Project Buildout traffic conditions. The sixth column (6) of *Table 8-2* presents the increase in the V/C ratio and indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

Planned improvements, which are discussed in more detail in *Section 9.0* of this report, have been assumed for the Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout scenarios for the roadway segments listed below:

- 3. Lucerne Street, south of Lakeshore Drive
- 7. Mission Trail, between Diamond Drive and Campbell Street
- 8. Mission Trail, between Campbell Street and Malaga Road
- 12. Mission Trail, between Malaga Road and Olive Street
- 13. Olive Street, between Mission Trail and Grape Street
- 14. Mission Trail, between Olive Street and Victorian Lane
- 15. Mission Trail, between Victorian Lane and Lemon Street
- 17. Corydon Road, between Mission Trail and Cereal Street
- 18. Cereal Street, west of Corydon Road
- 20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps
- 21. Corydon Road, between Cereal Street and Palomar Street
- 24. Stoneman Street, north of Grand Avenue
- 26. Corydon Road, between Palomar Street and Grand Avenue
- 27. Sylvester Street, between Lucerne Street and Diamond Drive
- 28. Lucerne Street, between Sylvester Street and Cereal Street
- 29. Cereal Street, between Lucerne Street and Stoneman Street
- 30. Cereal Street, between Stoneman Street and Diamond Drive
- 31. Diamond Drive, between Olive Street and Cereal Street
- 32. Bundy Canyon Road, between Corydon Road and Mission Trail

8.2.1 *Year 2040 With Adopted Specific Plan Traffic Conditions*

Review of column (4) of *Table 8-2* indicates that for the Year 2040 With Adopted Specific Plan traffic conditions, four (4) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Grape Street, *east of* Railroad Canyon Road	44,238	1.297	F	52,557	1.541	F
21. Corydon Road, *between* Cereal Street and Palomar Street	32,174	0.944	E	32,003	0.939	E
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	16,208	1.247	F	14,631	1.125	F
23. Palomar Street, *between* Corydon Road and Mission Trail	13,718	1.055	F	12,059	0.928	E

8.2.2 *Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (5) of *Table 8-2* indicates that for the Year 2040 With ELSP Project Buildout traffic conditions, three (3) key study roadway segments are forecast to operate at unacceptable levels of service on a daily basis when compared to the LOS standards defined in this report. The remaining key study roadway segments are forecast to operate at acceptable levels of service on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Grape Street, *east of* Railroad Canyon Road	44,090	1.293	F	52,289	1.533	F
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	15,466	1.190	F	13,554	1.043	F
23. Palomar Street, *between* Corydon Road and Mission Trail	13,572	1.044	F	11,788	0.907	E

To determine if the ELSP Project Buildout creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 8-3***, these study roadway segments are forecast to operate at LOS C or better during the AM, PM and Saturday Midday peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With ELSP Project Buildout traffic and therefore no improvements are required.

TABLE 8-2

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[40] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
1. Grape Street, *east of* Railroad Canyon Road	Weekday	Major	34,100	4D	20,281	0.595	A	**44,238**	**1.297**	**F**	**44,090**	**1.293**	**F**	**-0.004**	**Yes**
	Saturday				24,102	0.707	C	**52,557**	**1.541**	**F**	**52,289**	**1.533**	**F**	**-0.008**	**Yes**
2. Railroad Canyon Road, *between* Summerhill Drive/Grape Street and Lakeshore Drive/Mission Trail	Weekday	Urban Arterial	62,850	7D	26,367	0.420	A	47,181	0.751	C	43,951	0.699	B	-0.052	No
	Saturday				26,682	0.425	A	52,096	0.829	D	47,416	0.754	C	-0.075	No
3. Lucerne Street, *south of* Lakeshore Drive	Weekday	Major	34,100	4D	71	0.005	A	13,145	0.385	A	16,695	0.490	A	0.105	No
	Saturday				63	0.005	A	13,658	0.401	A	16,943	0.497	A	0.096	No
4. Casino Drive, *east of* Diamond Drive	Weekday	Major	34,100	4D	5,861	0.172	A	12,291	0.360	A	12,352	0.362	A	0.002	No
	Saturday				5,468	0.160	A	11,468	0.336	A	11,523	0.338	A	0.002	No
5. Diamond Drive, *between* Lakeshore Drive/Mission Trail and Campbell Street	Weekday	Major	34,100	4D	4,924	0.144	A	26,642	0.781	C	22,269	0.653	B	-0.128	No
	Saturday				4,703	0.138	A	29,203	0.856	D	23,759	0.697	B	-0.159	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[40] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[41] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
6. Diamond Drive, *between* Campbell Street and Malaga Road	Weekday	Major	34,100	4D	3,671	0.108	A	16,884	0.495	A	11,556	0.339	A	-0.156	No
	Saturday				3,750	0.110	A	18,435	0.541	A	11,883	0.348	A	-0.193	No
7. Mission Trail, *between* Diamond Drive and Campbell Street	Weekday	Urban Arterial	53,900	6D	19,238	0.564	A	37,889	0.703	C	33,497	0.621	B	-0.082	No
	Saturday				16,742	0.491	A	36,345	0.674	B	30,217	0.561	A	-0.113	No
8. Mission Trail, *between* Campbell Street and Malaga Road	Weekday	Urban Arterial	53,900	6D	16,132	0.473	A	37,389	0.694	B	31,662	0.587	A	-0.107	No
	Saturday				16,713	0.490	A	40,311	0.748	C	32,960	0.612	B	-0.136	No
9. Malaga Road, *between* Diamond Drive and Mission Trail	Weekday	Major	34,100	4D	1,216	0.036	A	4,264	0.125	A	4,024	0.118	A	-0.007	No
	Saturday				1,238	0.036	A	4,358	0.128	A	4,082	0.120	A	-0.008	No
10. Malaga Road, *east of* Mission Trail	Weekday	Major	34,100	4D	2,740	0.211	A	2,776	0.081	A	2,754	0.081	A	0.000	No
	Saturday				2,934	0.226	A	2,973	0.087	A	2,948	0.086	A	-0.001	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[41] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[42] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
11. Diamond Drive, *north of* Summerly Place	Weekday	Major	34,100	4D	703	0.021	A	11,934	0.350	A	6,413	0.188	A	-0.162	No
	Saturday				636	0.019	A	12,976	0.381	A	6,091	0.179	A	-0.202	No
12. Mission Trail, *between* Malaga Road and Olive Street	Weekday	Urban Arterial	53,900	6D	16,593	0.487	A	39,372	0.730	C	33,313	0.618	B	-0.112	No
	Saturday				16,042	0.470	A	40,452	0.751	C	32,648	0.606	B	-0.145	No
13. Olive Street, *between* Mission Trail and Grape Street	Weekday	Major	34,100	4D	2,393	0.184	A	5,824	0.171	A	5,673	0.166	A	-0.005	No
	Saturday				2,312	0.178	A	5,769	0.169	A	5,522	0.162	A	-0.007	No
14. Mission Trail, *between* Olive Street and Victorian Lane	Weekday	Urban Arterial	53,900	6D	17,898	0.691	B	35,170	0.653	B	34,281	0.636	B	-0.017	No
	Saturday				16,952	0.655	B	34,584	0.642	B	32,917	0.611	B	-0.031	No
15. Mission Trail, *between* Victorian Lane and Lemon Street	Weekday	Urban Arterial	53,900	6D	18,146	0.701	C	35,864	0.665	B	34,504	0.640	B	-0.025	No
	Saturday				17,176	0.663	B	35,343	0.656	B	33,121	0.614	B	-0.042	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[42] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[43] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
16. Lemon Street, *between* Mission Trail and Grape Street	Weekday	Collector	13,000	2U	3,253	0.250	A	7,267	0.559	A	6,989	0.538	A	-0.021	No
	Saturday				3,007	0.231	A	6,945	0.534	A	6,529	0.502	A	-0.032	No
17. Corydon Road, *between* Mission Trail and Cereal Street	Weekday	Major	34,100	4D	**16,978**	**0.943**	**E**	20,240	0.594	A	19,513	0.572	A	-0.022	No
	Saturday				15,639	0.869	D	19,760	0.579	A	18,482	0.542	A	-0.037	No
18. Cereal Street, *west of* Corydon Road	Weekday	Major	34,100	4D	445	0.034	A	11,588	0.340	A	8,048	0.236	A	-0.104	No
	Saturday				711	0.055	A	14,785	0.434	A	10,187	0.299	A	-0.135	No
19. Mission Trail, *between* Corydon Road and Bundy Canyon Road	Weekday	Major	34,100	4D	13,919	0.408	A	24,718	0.725	C	24,592	0.721	C	-0.004	No
	Saturday				12,283	0.360	A	22,336	0.655	B	21,891	0.642	B	-0.013	No
20. Bundy Canyon Road, *between* Mission Trail and I-15 Southbound Ramps	Weekday	Urban Arterial	53,900	6D	9,781	0.752	C	33,669	0.625	B	23,734	0.440	A	-0.185	No
	Saturday				9,107	0.701	C	33,355	0.619	B	22,785	0.423	A	-0.196	No

Notes:

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- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[43] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[44] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
21. Corydon Road, *between* Cereal Street and Palomar Street	Weekday	Major	34,100	4D	15,630	0.868	D	**32,174**	**0.944**	**E**	29,572	0.867	D	-0.077	No
	Saturday				14,481	0.805	D	**32,003**	**0.939**	**E**	28,185	0.827	D	-0.112	No
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	Weekday	Collector	13,000	2U	8,034	0.618	B	**16,208**	**1.247**	**F**	**15,466**	**1.190**	**F**	**-0.057**	**Yes**
	Saturday				6,887	0.530	A	**14,631**	**1.125**	**F**	**13,554**	**1.043**	**F**	**-0.082**	**Yes**
23. Palomar Street, *between* Corydon Road and Mission Trail	Weekday	Collector	13,000	2U	3,221	0.248	A	**13,718**	**1.055**	**F**	**13,572**	**1.044**	**F**	**-0.011**	**Yes**
	Saturday				2,744	0.211	A	**12,059**	**0.928**	**E**	**11,788**	**0.907**	**E**	**-0.021**	**Yes**
24. Stoneman Street, *north of* Grand Avenue	Weekday	Collector	13,000	2U	760	0.058	A	7,233	0.556	A	6,808	0.524	A	-0.032	No
	Saturday				724	0.056	A	7,383	0.568	A	6,682	0.514	A	-0.054	No
25. Skylark Drive, *north of* Grand Avenue	Weekday	Collector	13,000	2U	220	0.017	A	1,065	0.082	A	1,374	0.106	A	0.024	No
	Saturday				237	0.018	A	1,146	0.088	A	1,479	0.114	A	0.026	No

Notes:

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- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[44] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)
YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[45] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
26. Corydon Road, *between* Palomar Street and Grand Avenue	Weekday	Major	34,100	4D	11,849	0.658	B	27,757	0.814	D	27,633	0.810	D	-0.004	No
	Saturday				10,999	0.611	B	26,059	0.764	C	25,775	0.756	C	-0.008	No
27. Sylvester Street, *between* Lucerne Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			649	0.019	A	918	0.027	A	0.008	No
	Saturday							736	0.022	A	974	0.029	A	0.007	No
28. Lucerne Street, *between* Sylvester Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			11,487	0.337	A	14,630	0.429	A	0.092	No
	Saturday							12,491	0.366	A	15,280	0.448	A	0.082	No
29. Cereal Street, *between* Lucerne Street and Stoneman Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			7,941	0.233	A	9,353	0.274	A	0.041	No
	Saturday							8,350	0.245	A	9,605	0.282	A	0.037	No
30. Cereal Street, *between* Stoneman Street and Diamond Drive	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			10,158	0.298	A	10,626	0.312	A	0.014	No
	Saturday							10,574	0.310	A	10,659	0.313	A	0.003	No

Notes:

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- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[45] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-2 (CONTINUED)
YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Yr. 2040 Type of Arterial	(1) LOS E Capacity[46] (VPD)	(2) Lanes	(3) Existing Traffic Conditions			(4) Year 2040 With Adopted Specific Plan Traffic Conditions			(5) Year 2040 With ELSP Project Buildout Traffic Conditions			(6) Adverse Condition	
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	V/C Inc.	Yes/ No
31. Diamond Drive, *between* Olive Street and Cereal Street	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			7,005	0.205	A	5,248	0.154	A	-0.051	No
	Saturday							7,437	0.218	A	5,089	0.149	A	-0.069	No
32. Bundy Canyon Road, *between* Corydon Road and Mission Trail	Weekday	Major	34,100	4D	Segment Does Not Exist Under Existing Traffic Conditions			20,093	0.589	A	16,885	0.495	A	-0.094	No
	Saturday							21,117	0.619	B	16,700	0.490	A	-0.129	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[46] Source: *City of Lake Elsinore General Plan Update Draft Program EIR (August 2011).*

TABLE 8-3

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Year 2040 With ELSP Project Buildout Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Grape Street, *east of* Railroad Canyon Road	Major	Eastbound	Weekday AM	1,600	2	3200	1,159	0.362	A
			Weekday PM	1,600	2	3200	1,393	0.435	A
			Saturday Midday	1,600	2	3200	2,320	0.725	C
		Westbound	Weekday AM	1,600	2	3200	1,377	0.430	A
			Weekday PM	1,600	2	3200	1,695	0.530	A
			Saturday Midday	1,600	2	3200	1,889	0.590	A
22. Mission Trail, *between* Bundy Canyon Road and Palomar Street	Collector	Northbound	Weekday AM	1,600	1	1600	764	0.478	A
			Weekday PM	1,600	1	1600	666	0.416	A
			Saturday Midday	1,600	1	1600	581	0.363	A
		Southbound	Weekday AM	1,600	1	1600	632	0.395	A
			Weekday PM	1,600	1	1600	803	0.502	A
			Saturday Midday	1,600	1	1600	798	0.499	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

TABLE 8-3 (CONTINUED)

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Type of Arterial	Approach	Time Period	(1) Link Capacity (VPHPL)	(2) Lanes	(3) Total Link Capacity (VPH)	(4) Year 2040 With ELSP Project Buildout Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
23. Palomar Street, *between* Corydon Road and Mission Trail	Collector	Eastbound	Weekday AM	1,600	1	1600	791	0.494	A
			Weekday PM	1,600	1	1600	604	0.378	A
			Saturday Midday	1,600	1	1600	985	0.616	B
		Westbound	Weekday AM	1,600	1	1600	634	0.396	A
			Weekday PM	1,600	1	1600	701	0.438	A
			Saturday Midday	1,600	1	1600	491	0.307	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-3* for the LOS definitions

9.0 PLANNED AND RECOMMENDED IMPROVEMENTS

For those intersections and roadway segments where projected traffic volumes are expected to result in significant impacts, this report recommends 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. The identified improvements are expected to:

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

Figures 9-1, ***9-2***, and ***9-3*** present the planned and recommended improvements and intersection controls at the key study intersections for the Existing With ELSP Project Buildout, Year 2022 With ELSP Project Phase I, and Year 2040 With ELSP Project Buildout, respectively. These are discussed in more detail in the sections below.

9.1 Internal Network Planned Improvements

9.1.1 *Project Phase I Planned Improvements*

The planned improvements listed below are anticipated to be completed in conjunction with the Project Phase I development and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions.

9.1.1.1 Intersections

The Project Phase I internal network planned improvements for intersections are as follows:

- Intersection 25. Diamond Drive at Olive Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a shared left-right-turn lane.
- Intersection 26. "A" Street at Olive Street: This intersection is proposed to be a roundabout three-legged intersection with no north leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Olive Street are both proposed to be two lane collector roads.
- Intersection 27. "A" Street at Victorian Lane: This intersection is proposed to be a roundabout three-legged intersection with no west leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Victorian Lane are both proposed to be two lane collector roads.
- Intersection 28. "A" Street at Cereal Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no south leg. The southbound movement will consist of a shared left-right-turn lane. The eastbound movement will

consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a through lane and a shared through-right-turn lane.

9.1.1.2 Roadway Segments

The Project Phase I internal network planned improvements for roadway segments are as follows:

- Roadway Segment 27. Sylvester Street, between Lucerne Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 28. Lucerne Street, between Sylvester Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 29. Cereal Street, between Lucerne Street and Stoneman Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 30. Cereal Street between Stoneman Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 31. Diamond Drive, between Olive Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.

9.1.2 *Project Buildout Planned Improvements*

In addition to the planned improvements related to Project Phase I development, the planned improvements listed below are anticipated to be completed in conjunction with the Project Buildout development and have been assumed in the Existing With ELSP Project Buildout, Year 2040 With Adopted Specific Plan, Year 2040 With ELSP Project Buildout traffic conditions.

9.1.2.1 Intersections

The Project Buildout internal network planned improvements for intersections are as follows:

- Intersection 25. Diamond Drive at Olive Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a shared left-right-turn lane.
- Intersection 26. "A" Street at Olive Street: This intersection is proposed to be a roundabout three-legged intersection with no north leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Olive Street are both proposed to be two lane collector roads.
- Intersection 27. "A" Street at Victorian Lane: This intersection is proposed to be a roundabout three-legged intersection with no west leg. The roundabout will consist of one lane and each leg will have one entry lane and one exit lane. "A" Street and Victorian Lane are both proposed to be two lane collector roads.
- Intersection 28. "A" Street at Cereal Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no south leg. The southbound

movement will consist of a shared left-right-turn lane. The eastbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of a through lane and a shared through-right-turn lane.

- Intersection 29. Lucerne Street at Sylvester Street: This intersection is proposed to be a one-way stop-controlled three-legged intersection with no west leg. The northbound movement will consist of a through lane and a shared through-right-turn lane. The southbound movement will consist of a shared through-left-turn lane and through lane. The westbound movement will consist of an exclusive left-turn lane and an exclusive right-turn lane.
- Intersection 30. Stoneman Street at Cereal Street: This intersection is proposed to be a three phase signalized three-legged intersection with no north leg. The northbound movement will consist of an exclusive left-turn lane and an exclusive right-turn lane. The eastbound movement will consist of a through lane and a shared through-right-turn lane. The westbound movement will consist of an exclusive left-turn lane and two (2) through lanes.

9.1.2.2 Roadway Segments

The Project Buildout internal network planned improvements for roadway segments are as follows:

- Roadway Segment 27. Sylvester Street, between Lucerne Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 28. Lucerne Street, between Sylvester Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 29. Cereal Street, between Lucerne Street and Stoneman Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 30. Cereal Street between Stoneman Street and Diamond Drive: This roadway segment is proposed to be a major arterial with four (4) lanes divided.
- Roadway Segment 31. Diamond Drive, between Olive Street and Cereal Street: This roadway segment is proposed to be a major arterial with four (4) lanes divided.

9.2 External Network Planned Improvements

9.2.1 *Existing With East Lake Specific Plan Project Buildout Planned Improvements*

The planned improvements listed below are anticipated to be completed in conjunction with the Project Buildout and have been assumed in the Existing With ELSP Project Buildout traffic conditions.

9.2.1.1 Intersections

The Existing With ELSP Project Buildout external network planned improvements for intersections are as follows:

- Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Restripe the southbound approach to provide a shared through-right-turn lane. Modify the existing traffic signal to provide a five phase signal.

9.2.1.2 Roadway Segments

There are no Existing With ELSP Project Buildout external network planned improvements for roadway segments.

9.2.2 Year 2022 Planned Improvements

The planned improvements listed below are anticipated to be completed in Year 2022 and have been assumed in the Year 2022 Without ELSP Project Phase I and Year 2022 With ELSP Project Phase I traffic conditions.

9.2.2.1 Intersections

The Year 2022 external network planned improvements for intersections are as follows:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Remove a northbound left-turn lane and the east leg crosswalk. Widen and/or restripe the westbound approach of Grape Street to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 2. Railroad Canyon Road at I-15 NB Ramps: This intersection will not exist upon completion of the Railroad Canyon Road Interchange Project.
- Intersection 3. Diamond Drive at I-15 SB Ramps: Widen and/or restripe the southbound approach to provide a second exclusive left-turn lane as well as a third exclusive through lane. Widen and/or restripe the southbound departure to include a third lane. Wide and/or restripe the eastbound departure to include two (2) additional on-ramp lanes. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane.
- Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Restripe the southbound approach to provide a shared through-right-turn lane. Stripe crosswalks

on the north and east legs. Modify the existing traffic signal to provide a five phase signal with protective left-turn phasing on Mission Trail.

- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 15. Corydon Road at Cereal Street: Add an east leg and provide the westbound approach with an exclusive left-turn lane, a through lane, a shared through-right-turn lane, and provide the eastbound departure with two (2) lanes. Widen and/or restripe the eastbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Restripe the northbound approach of Corydon Road to provide a shared through-right-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane. Stripe crosswalks on all four legs. Install an eight phase traffic signal.
- Intersection 16. Mission Trail at Bundy Canyon Road: Widen and/or restripe the eastbound approach of Bundy Canyon Road to provide an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the westbound approach to provide two (2) through lanes. Modify the existing traffic signal to provide an eight phase signal.
- Intersection 24. Grape Street at I-15 NB Ramps: Add a west leg and provide the eastbound approach with two (2) exclusive left-turn lanes, an exclusive right-turn lane, and provide the westbound departure with three (3) on-ramp lanes. Widen and/or restripe the northbound approach on Grape Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Install a three phase traffic signal.

9.2.2.2 Roadway Segments

The Year 2022 external network planned improvements for roadway segments are as follows:

- Roadway Segment 3. Lucerne Street, south of Lakeshore Drive: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 18. Cereal Street, west of Corydon Road: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 32. Bundy Canyon Road, between Corydon Road and Mission Trail: Extend Bundy Canyon Road from Mission Trail to Corydon Road with four (4) lanes divided.

9.2.3 *Year 2040 Planned Improvements*

The planned improvements listed below are anticipated to be completed in Year 2040 and have been assumed in the Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions.

9.2.3.1 Intersections

The Year 2040 external network planned improvements for intersections are as follows:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Remove a northbound left-turn lane and the east leg crosswalk. Widen and/or restripe the westbound approach of Grape Street to provide an exclusive right-turn lane. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 2. Railroad Canyon Road at I-15 NB Ramps: This intersection will not exist upon completion of the Railroad Canyon Road Interchange Project.
- Intersection 3. Diamond Drive at I-15 SB Ramps: Widen and/or restripe the southbound approach to provide a second exclusive left-turn lane as well as a third exclusive through lane. Widen and/or restripe the southbound departure to include a third lane. Wide and/or restripe the eastbound departure to include two (2) additional on-ramp lanes. Modify the existing traffic signal as necessary. These improvements are in conjunction with the Railroad Canyon Road Interchange Project.
- Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane. Widen and/or restripe the eastbound approach on Lakeshore Drive to provide two (2) exclusive through lanes. Widen and/or restripe the westbound departure to provide two (2) additional lanes. Widen and/or restripe the westbound approach to provide two (2) exclusive through lanes. Widen and/or restripe the eastbound departure to provide two (2) additional lanes. Stripe crosswalks on all legs. Install three phase traffic signal.
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Widen and/or restripe the eastbound approach on Lakeshore Drive to provide one (1) additional through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or restripe eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 8. Mission Trail at Campbell Street: Widen and/or restripe the northbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide one (1) additional through lane. Widen and/or restripe the northbound departure to provide a third lane.
- Intersection 10. Mission Trail at Malaga Road: Widen and/or restripe the northbound approach on Mission Trail to provide one (1) additional through lane. Widen and/or

restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide one (1) additional through lane. Widen and/or restripe the northbound departure to provide a third lane. Modify the existing traffic signal as necessary.

- Intersection 11. Mission Trail at Olive Street: Add a west leg and provide the eastbound approach with an exclusive eastbound left-turn lane, and a shared through-right-turn lane, and provide a lane for the westbound departure. Restripe the west leg to provide a shared through-right-turn lane. Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane and a second through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide a shared through-right-turn lane and a second through lane. Widen and/or restripe the northbound departure with a third lane. Stripe crosswalks on the north and east legs. Modify the existing traffic signal to provide a five phase signal with protective left-turn phasing on Mission Trail.
- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane and a second through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane and a second through lane. Widen and/or restripe the northbound departure to provide a third lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 13. Mission Trail at Lemon Street: Widen and/or restripe the northbound approach of Mission Trail to provide a third through lane. Widen and/or restripe the southbound departure to provide a third lane. Widen and/or restripe the southbound approach to provide a third through lane. Widen and/or restripe the northbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 15. Corydon Road at Cereal Street: Add an east leg and provide the westbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane, and provide the eastbound departure with two (2) lanes. Widen and/or restripe the eastbound approach with an exclusive left-turn lane, a through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the northbound approach of Corydon Road to provide a through lane and a shared through-right-turn lane. Widen and/or restripe the southbound departure with a second lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a through lane. Widen and/or restripe the northbound departure with a second lane. Stripe crosswalks on all four legs. Install an eight phase traffic signal.
- Intersection 16. Mission Trail at Bundy Canyon Road: Widen and/or restripe the eastbound approach of Bundy Canyon Road to provide an exclusive left-turn lane, a

through lane, and a shared through-right-turn lane. Widen and/or restripe the westbound departure with a second lane. Widen and/or restripe the westbound approach to provide two (2) through lanes. Modify the existing traffic signal to provide an eight phase signal.

- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Please note that the addition of a third westbound departure lane would not result in a trap lane at the intersection of Orange Street at Bundy Canyon Road due to an additional westbound through lane included as a planned improvement at that location. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 19. I-15 NB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a third through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 20. Corydon Road at Palomar Street: Widen and/or restripe the northbound approach on Corydon Road to provide a second through lane. Widen and/or restripe the northbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 21. Mission Trail at Palomar Street: Stripe crosswalks on all legs. Install a three phase traffic signal.
- Intersection 22. Stoneman Street at Grand Avenue: Widen and/or restripe the eastbound approach on Grand Avenue to provide a through lane. Widen and/or restripe the eastbound departure to provide a second lane. Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.

- Intersection 23. Corydon Road at Grand Avenue: Widen and/or restripe the eastbound approach on Grand Avenue to provide a through lane. Widen and/or restripe the westbound departure to provide a second lane. Widen and/or restripe the westbound approach to provide a through lane. Widen and/or restripe the eastbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 24. Grape Street at I-15 NB Ramps: Add a west leg and provide the eastbound approach with two (2) exclusive left-turn lanes, an exclusive right-turn lane, and provide the westbound departure with three (3) on-ramp lanes. Widen and/or restripe the northbound approach on Grape Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Install a three phase traffic signal.

9.2.3.2 Roadway Segments

The Year 2040 external network planned improvements for roadway segments are as follows:

- Roadway Segment 3. Lucerne Street, south of Lakeshore Drive: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided. Extend south to Sylvester Street.
- Roadway Segment 7. Mission Trail, between Diamond Drive and Campbell Street: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 8. Mission Trail, between Campbell Street and Malaga Road: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 12. Mission Trail, between Malaga Road and Olive Street: Widen from a major arterial with four (4) lanes divided to an urban arterial with six (6) lanes divided.
- Roadway Segment 13. Olive Street, between Mission Trail and Grape Street: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 14. Mission Trail, between Olive Street and Victorian Lane: Widen from a secondary arterial with four (4) lanes undivided to an urban arterial with six (6) lanes divided.
- Roadway Segment 15. Mission Trail, between Victorian Lane and Lemon Street: Widen from a secondary arterial with four (4) lanes undivided to an urban arterial with six (6) lanes divided.
- Roadway Segment 17. Corydon Road, between Mission Trail and Cereal Street: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.

- Roadway Segment 18. Cereal Street, west of Corydon Road: Widen from a collector with two (2) lanes undivided to a major arterial with four (4) lanes divided.
- Roadway Segment 20. Bundy Canyon Road, between Mission Trail and I-15 SB Ramps: Widen from a collector with two (2) lanes undivided to an urban arterial with six (6) lanes divided.
- Roadway Segment 21. Corydon Road, between Cereal Street and Palomar Street: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.
- Roadway Segment 24. Stoneman Street, north of Grand Avenue: Extend north to Cereal Street.
- Roadway Segment 26. Corydon Road, between Palomar Street and Grand Avenue: Widen from a divided collector with two (2) lanes divided to a major arterial with four (4) lanes divided.
- Roadway Segment 32. Bundy Canyon Road, between Corydon Road and Mission Trail: Extend Bundy Canyon Road from Mission Trail to Corydon Road with four (4) lanes divided.

9.3 Recommended Improvements

9.3.1 *Existing With East Lake Specific Plan Project Buildout Traffic Conditions*

9.3.1.1 Intersections

The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed Project Buildout will significantly impact six (6) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Existing With ELSP Project Buildout traffic:

- Intersection 5. Lucerne Street at Lakeshore Drive: Widen and/or restripe Lucerne Street to provide an exclusive northbound left-turn lane. Stripe crosswalks on all legs. Install three phase traffic signal.
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.
- Intersection 12. Mission Trail at Victorian Lane: Widen and/or restripe the northbound approach of Mission Trail to provide an exclusive northbound left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive southbound left-turn lane. Stripe crosswalks on all four legs. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.

- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 22. Stoneman Street at Grand Avenue: Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.

9.3.1.2 Roadway Segments

The results of the roadway segment analyses for Existing With ELSP Project Buildout traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-one (31) key roadway segments (roadway segment 32 does not exist in Existing With ELSP Project Buildout traffic conditions). As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.

9.3.2 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

9.3.2.1 Intersections

The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed Project Phase I will significantly impact eleven (11) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Year 2022 With ELSP Project Phase I traffic:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Widen and/or restripe the eastbound approach of Summerhill Road to provide a second through lane and convert the shared through-right lane into an exclusive through lane. Widen and/or restripe the southbound approach to provide a second left-turn lane. Widen and/or restripe the northbound departure to provide a third lane. Widen and/or restripe the northbound movement to provide a third through lane and to convert the northbound right-turn lane into a free right-turn movement. Modify the existing traffic signal to be an eight phase signal and to provide overlap phasing for the westbound right-turn movement.
- Intersection 4. Diamond Drive at Auto Center Drive/Casino Drive: Widen the southbound approach of Diamond Drive to provide a second through lane. However, this mitigation is infeasible due to the surrounding parcels preventing the additional

needed right-of-way. Hence the Project's impact at this key intersection is considered unavoidable.

- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.
- Intersection 7. Diamond Drive at Campbell Street: Restrict southbound left-turn movement and westbound left-turn movement. Please note that the recommended improvement is for Saturday Midday peak hour only.
- Intersection 8. Mission Trail at Campbell Street: Stripe crosswalks on the east and west leg. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 9. Diamond Drive at Malaga Road: Restripe the southbound approach on Diamond Drive to provide a second exclusive left-turn lane. Widen and/or restripe the eastbound approach to provide a second exclusive left-turn lane. Modify the existing traffic signal as necessary.
- Intersection 15. Corydon Road at Cereal Street: Widen and/or restripe the northbound approach on Corydon Road to provide a through lane. Widen and/or restripe the northbound departure to provide a second lane. Modify the existing traffic signal as necessary.
- Intersection 17. Orange Street at Bundy Canyon Road: Widen and/or restripe the northbound approach on Orange Street to provide an exclusive left-turn lane. Widen and/or restripe the southbound approach to provide an exclusive left-turn lane and a shared through-right-turn lane. Modify existing traffic signal to provide an eight phase signal.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Widen and/or restripe the southbound departure to provide a second on-ramp lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide a second through lane and an exclusive right-turn lane. Widen and/or restripe the westbound departure to provide a third lane. Widen and/or restripe the westbound approach to provide a second through lane. Widen and/or restripe the eastbound departure to provide a third lane. Modify the existing traffic signal as necessary.
- Intersection 22. Stoneman Street at Grand Avenue: Stripe crosswalks on all legs. Install a five phase traffic signal with protective left-turn phasing for Grand Avenue.
- Intersection 24. Grape Street at I-15 NB Ramps: Widen and/or restripe the southbound approach on Grape Street to convert the southbound right-turn lane into a free right-turn movement. Modify the existing traffic signal as necessary.

9.3.2.2 Roadway Segments

The results of the roadway segment analyses for Year 2022 With ELSP Project Phase I traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments. As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.

9.3.3 *Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions*

9.3.3.1 Intersections

The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed Project Buildout will significantly impact eleven (11) key study intersections. The remaining key study intersections are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersections significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- Intersection 1. Railroad Canyon Road at Summerhill Road/Grape Street: Widen and/or restripe the eastbound approach of Summerhill Road to provide a second through lane and convert the shared through-right lane into an exclusive through lane. Widen and/or restripe the southbound approach to provide a second left-turn lane. Widen and/or restripe the northbound departure to provide a third lane. Widen and/or restripe the northbound movement to provide a third through lane and to convert the northbound right-turn lane into a free right-turn movement. Modify the existing traffic signal to be an eight phase signal and to provide overlap phasing for the westbound right-turn movement.

- Intersection 3. Railroad Canyon Road at I-15 SB Ramps: Widen and/or restripe the northbound approach on Railroad Canyon Road to provide an exclusive right-turn lane. Widen and/or restripe the eastbound approach on the off-ramp to provide a second exclusive right-turn lane. Modify the existing traffic signal as necessary.

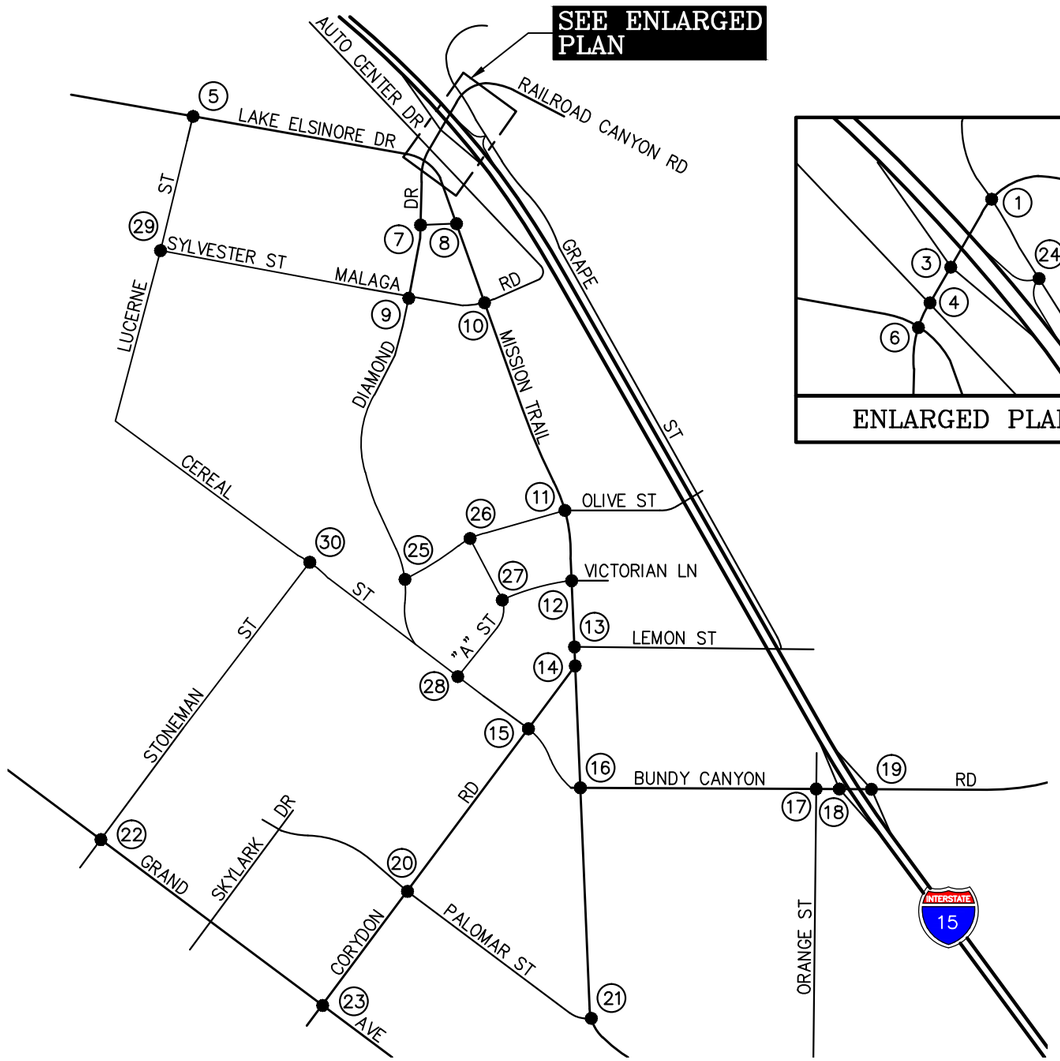
- Intersection 4. Diamond Drive at Auto Center Drive/Casino Drive: Widen the northbound approach of Diamond Drive to provide a second exclusive left-turn lane. Widen the southbound approach to provide an exclusive right-turn lane and third through lane. Widen the eastbound approach to provide a second exclusive left-turn lane and right-turn lane. Install a pedestrian refuge on the south leg. Modify the existing traffic signal to provide eight phasing with overlap phases for the southbound and eastbound right-turn. However, this mitigation is infeasible due to the surrounding parcels preventing the additional needed right-of-way. Hence the Project's impact at this key intersection is considered unavoidable.

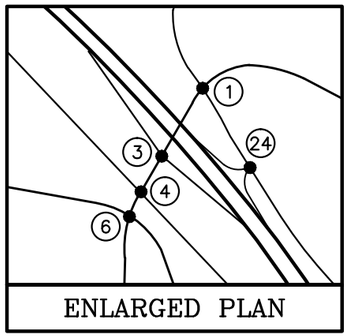
- Intersection 6. Diamond Drive at Lakeshore Drive/Mission Trail: Modify the existing traffic signal to provide overlap phasing for the westbound right-turn movement. No additional physical improvements are feasible to achieve an acceptable level of service LOS D or better. Hence the Project's impact at this key intersection is considered unavoidable.

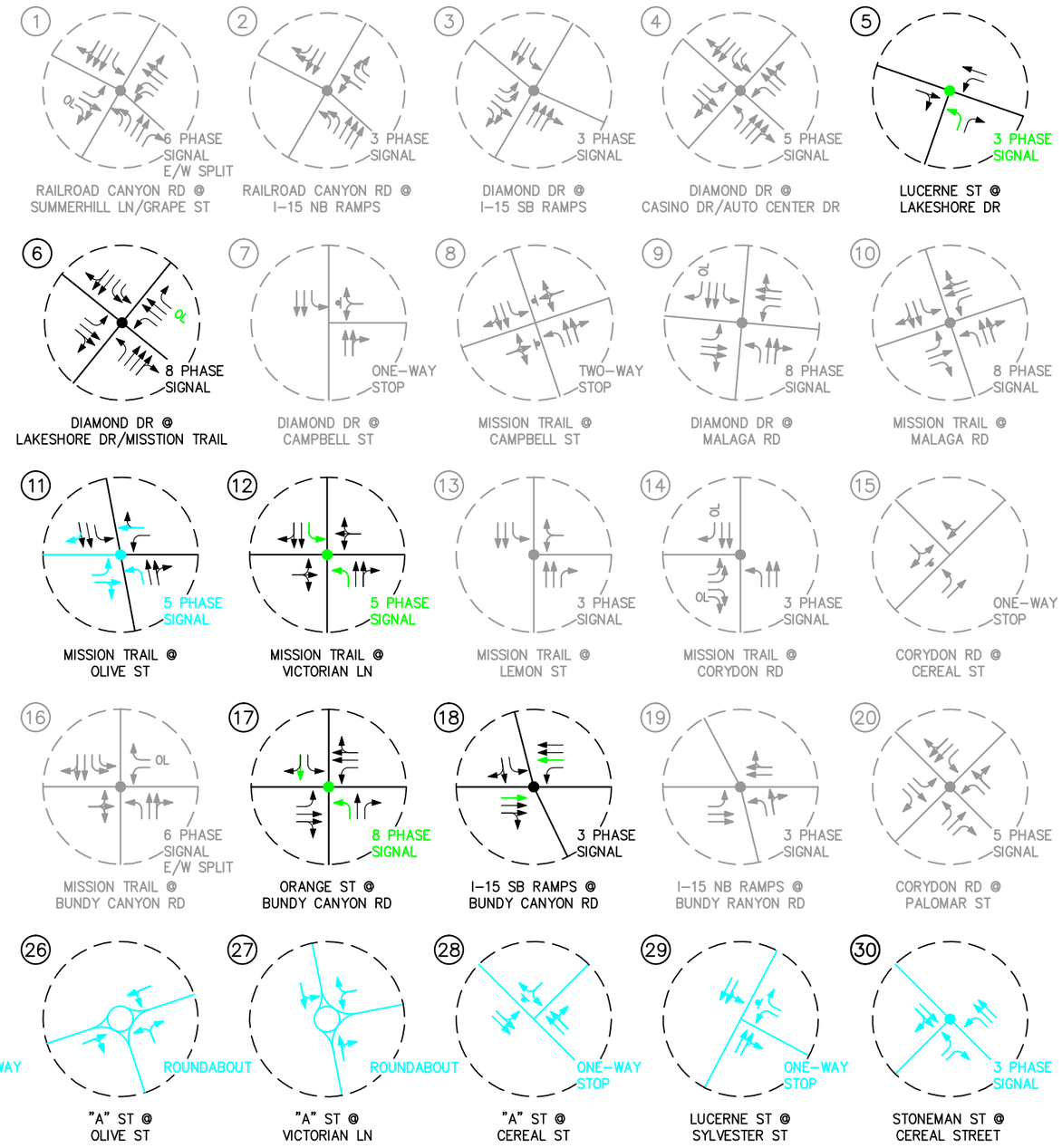
- Intersection 7. Diamond Drive at Campbell Street: Restrict southbound left-turn movement and westbound left-turn movement. Please note that the recommended improvement is for Saturday Midday peak hour only.
- Intersection 8. Mission Trail at Campbell Street: Stripe crosswalks on the east and west leg. Install a five phase traffic signal with protective left-turn phasing on Mission Trail.
- Intersection 9. Diamond Drive at Malaga Road: Restripe the southbound approach on Diamond Drive to provide a second exclusive left-turn lane. Widen and/or restripe the eastbound approach to provide a second exclusive left-turn lane. Modify the existing traffic signal as necessary. Please note that the second eastbound left-turn lane is only needed in the Year 2022 With ELSP Project Phase I traffic conditions.
- Intersection 18. I-15 SB Ramps at Bundy Canyon Road: Widen and/or restripe the southbound approach to provide an exclusive right-turn lane. Widen and/or restripe the eastbound approach on Bundy Canyon Road to provide an exclusive right-turn lane. Widen and/or restripe the southbound departure to provide a second on-ramp lane. Modify the existing traffic signal as necessary.
- Intersection 21. Mission Trail at Palomar Street: Widen and/or restripe the northbound approach on Mission Trail to provide a second exclusive left-turn lane. Widen and/or restripe the westbound departure to provide a second lane. Modify the traffic signal to provide overlap phasing for the eastbound right-turn movement.
- Intersection 22. Stoneman Street at Grand Avenue: Widen and/or restripe the northbound approach on Stoneman Street to provide an exclusive left-turn lane. Modify the existing traffic signal as necessary.
- Intersection 24. Grape Street at I-15 NB Ramps: Widen and/or restripe the southbound approach on Grape Street to convert the southbound right-turn lane into a free right-turn movement. Modify the existing traffic signal as necessary.

9.3.3.2 Roadway Segments

The results of the roadway segment analyses for Year 2040 With ELSP Project Buildout traffic conditions indicate that the proposed Project is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments. As there are no significant impacts, no traffic mitigation measures are required under this traffic scenario.







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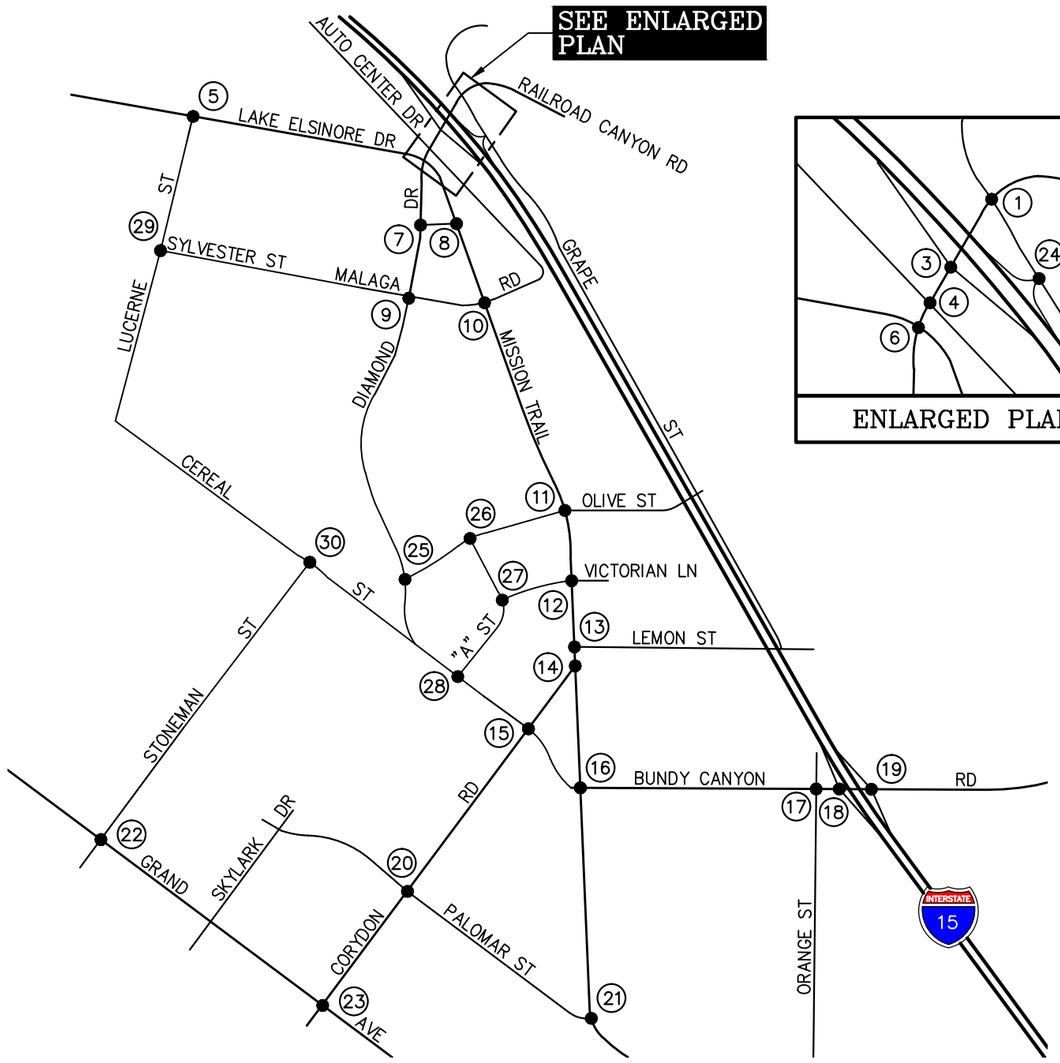
KEY

= APPROACH LANE ASSIGNMENT
= EXISTING WITH ELSP PROJECT BUILDOUT PLANNED IMPROVEMENTS
= EXISTING WITH ELSP PROJECT BUILDOUT RECOMMENDED IMPROVEMENTS
● = TRAFFIC SIGNAL, = STOP SIGN
OL = OVERLAP, F = FREE RIGHT-TURN

FIGURE 9-1

EXISTING WITH ELSP PROJECT BUILDOUT PLANNED AND RECOMMENDED IMPROVEMENTS

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE



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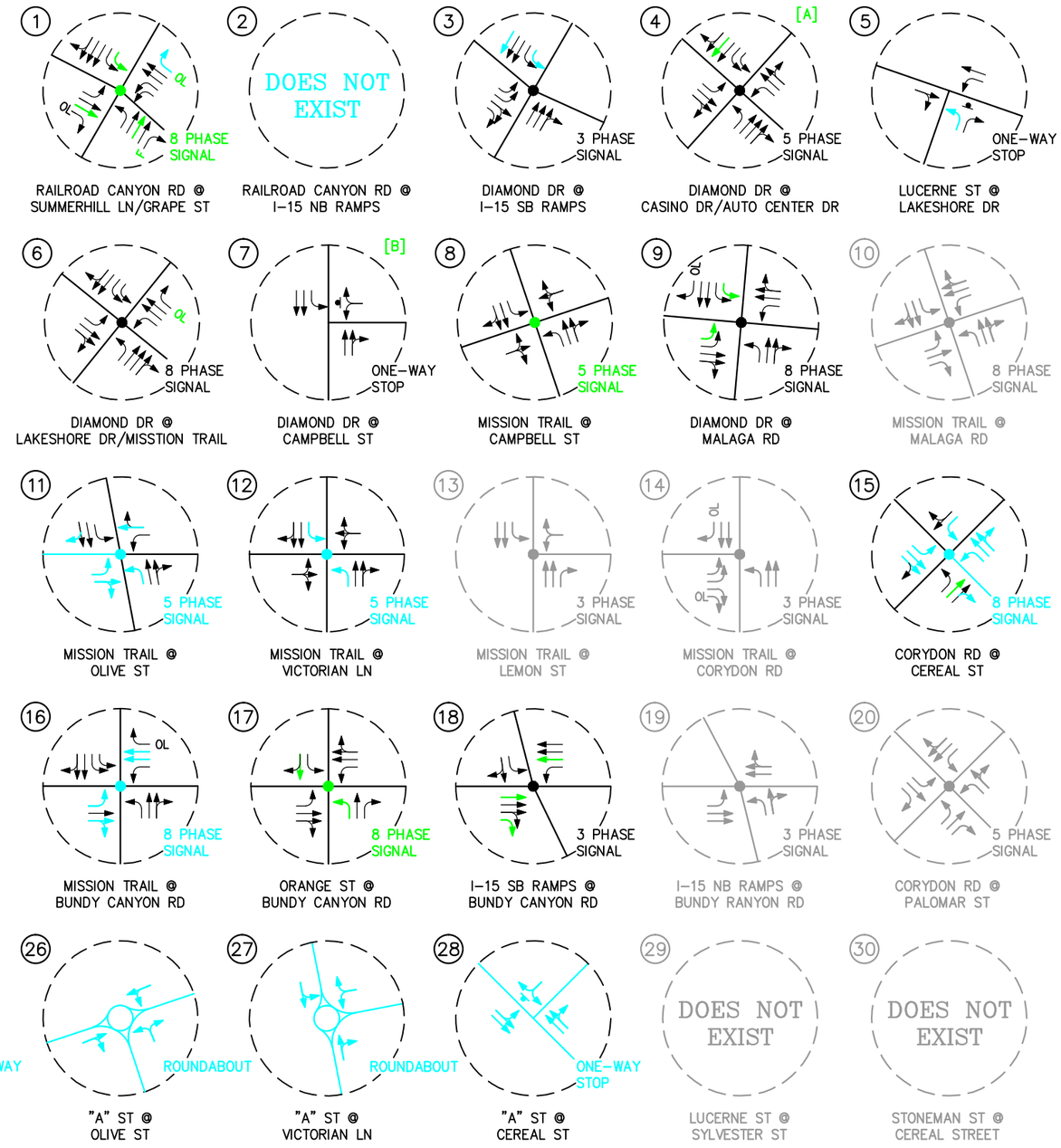

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KEY

- ← = APPROACH LANE ASSIGNMENT
- ← = YEAR 2022 WITH ELSP PROJECT PHASE I PLANNED IMPROVEMENTS
- ← = YEAR 2022 WITH ELSP PROJECT PHASE I RECOMMENDED IMPROVEMENTS
- ● = TRAFFIC SIGNAL, ▾ = STOP SIGN
- OL = OVERLAP, F = FREE RIGHT–TURN

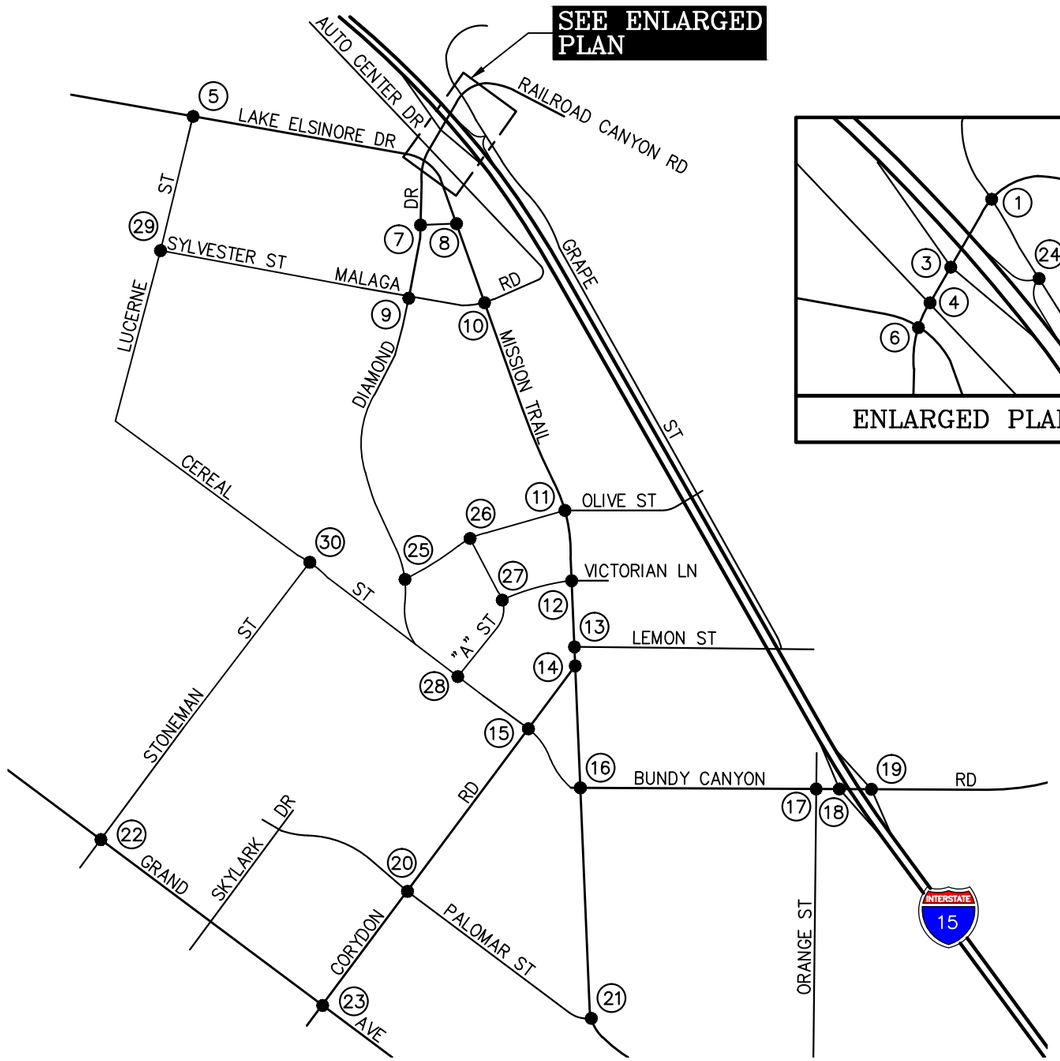
[A] = MITIGATION IS INFEASIBLE AND INCLUDED FOR INFORMATIONAL PURPOSES ONLY.

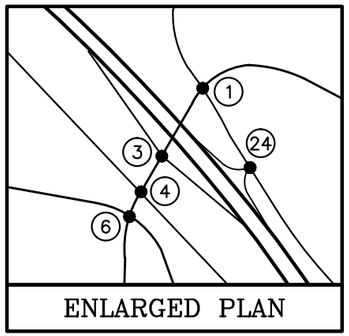
[B] = RESTRICT SOUTHBOUND LEFT AND WESTBOUND LEFT DURING SATURDAY MIDDAY PEAK HOUR.

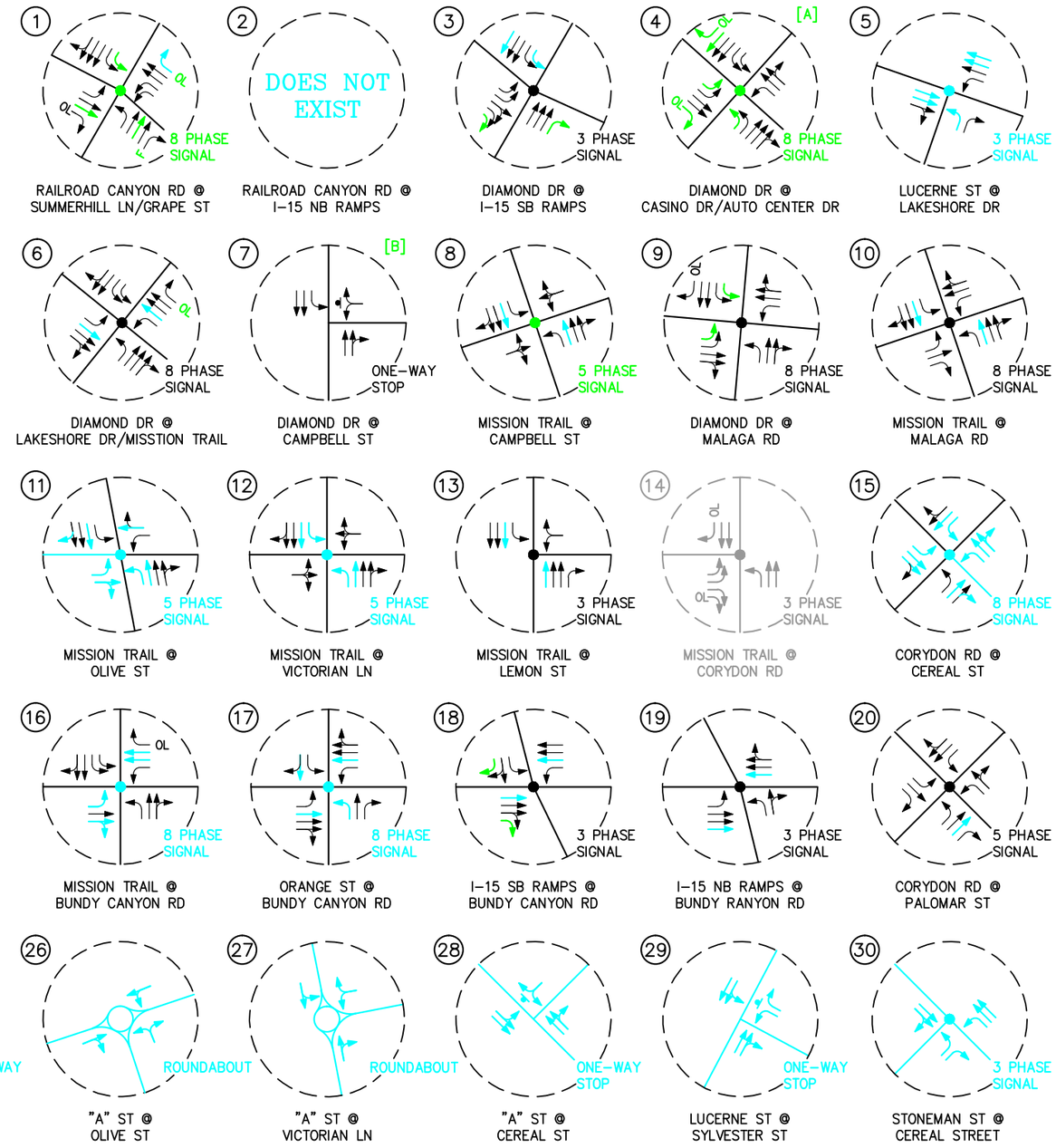
FIGURE 9–2

YEAR 2022 WITH ELSP PROJECT PHASE I PLANNED AND RECOMMENDED IMPROVEMENTS

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE







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KEY

- ← = APPROACH LANE ASSIGNMENT
- ← = YEAR 2040 WITH ELSP PROJECT BUILDOUT PLANNED IMPROVEMENTS
- ← = YEAR 2040 WITH ELSP PROJECT BUILDOUT RECOMMENDED IMPROVEMENTS
- ● = TRAFFIC SIGNAL, ▼ = STOP SIGN
- OL = OVERLAP, F = FREE RIGHT-TURN

[A] = INSTALL PEDESTRIAN REFUGE ON SOUTH LEG. MITIGATION IS INFEASIBLE AND INCLUDED FOR INFORMATIONAL PURPOSES ONLY.

[B] = RESTRICT SOUTHBOUND LEFT AND WESTBOUND LEFT DURING SATURDAY MIDDAY PEAK HOUR.

FIGURE 9-3

YEAR 2040 WITH ELSP PROJECT BUILDOUT PLANNED AND RECOMMENDED IMPROVEMENTS

EAST LAKE SPECIFIC PLAN EIR, LAKE ELSINORE

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10.0 TRAFFIC SIGNAL WARRANT ANALYSIS

The level of service analyses at the key unsignalized impacted study intersections that are recommended to be signalized are supplemented with an assessment of the need for signalization of the intersections. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant. Warrant #3 described in the *California Manual on Uniform Traffic Control Devices (MUTCD).* Warrant #3 has two parts: 1) Part A evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay and 2) Part B evaluates peak-hour traffic volumes on the major and minor streets. This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal. Other traffic signal warrants are available, however, they cannot be checked under future conditions (Without Project/Build-out without and with Project) because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four- or eight-hour vehicle volumes).

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are satisfied. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

10.1 Existing With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for the Existing With ELSP Project Buildout traffic conditions are summarized in column (1) of ***Table 10-1***. The results indicate that the following key unsignalized impacted intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM, Weekday PM and Saturday Midday peak hours:

- 5. Lucerne Street at Lakeshore Drive

The analysis and the recommended improvements show that the above-mentioned intersection in the Existing With ELSP Project Buildout traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Thus, it is concluded from *Table 10-1* that a traffic signal is justified at intersection #5, Lucerne Street at Lakeshore Drive.

The analysis and the recommended improvements show that intersections #12, Mission Trail at Victorian Lane, and #22, Stoneman Street at Grand Avenue, are recommended to be signalized. With signalization of these intersections, which is not warranted under any peak hours, these intersections are forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Although these intersections do not meet signal

warrants, it is recommended these locations be signalized due to right-of-way restrictions and safety concerns.

The Existing With ELSP Project Buildout traffic conditions Traffic Signal Warrant Analysis worksheets are contained in ***Appendix G***.

10.2 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for the Year 2022 With ELSP Project Phase I traffic conditions are summarized in column (2) of *Table 10-1*. The results indicate that the following key unsignalized impacted intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM and Weekday PM peak hours:

- 22. Stoneman Street at Grand Avenue

The analysis and the recommended improvements show that the above-mentioned intersection in the Year 2022 With ELSP Project Phase I traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted under the Weekday AM and PM peak hours, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Thus, it is concluded from *Table 10-1* that a traffic signal is justified at intersection #22, Stoneman Street at Grand Avenue.

The analysis and the recommended improvements show that intersection #8, Mission Trail at Campbell Street, is recommended to be signalized. With signalization of this intersection, which is not warranted under any peak hours, these intersections are forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and Saturday Midday peak hours. Although this intersection does not meet signal warrants, it is recommended this location be signalized due to safety concerns.

The Year 2022 With ELSP Project Phase I traffic conditions Traffic Signal Warrant Analysis worksheets are contained in *Appendix G*.

10.3 Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for the Year 2040 With ELSP Project Buildout traffic conditions are summarized in column (3) of *Table 10-1*. The results indicate that the following key unsignalized impacted intersection has future traffic conditions that will not exceed the volume thresholds of Warrant #3, Part A and Part B for the Weekday AM, Weekday PM, or Saturday Midday peak hours:

- 8. Mission Trail at Campbell Street

The analysis and the recommended improvements show that the above-mentioned intersection in the Year 2040 With ELSP Project Buildout traffic conditions is recommended to be signalized. With signalization of this intersection, which is not warranted under any peak hours, this intersection is forecast to operate at an acceptable service level during the Weekday AM, Weekday PM and

Saturday Midday peak hours. Although this intersection does not meet signal warrants, the signalization of this intersection is consistent with the analysis performed in the currently Adopted Specific Plan and it is reasonable to assume that by Year 2040, along with the adjoining planned roadway widening along Mission Trail from 4 lanes to 6 lanes, a traffic signal will be installed at this location. Thus, it is concluded from *Table 10-1* that a traffic signal is justified at intersection #8, Mission Trail at Campbell Street.

The Year 2040 With ELSP Project Buildout traffic conditions Traffic Signal Warrant Analysis worksheets are contained in *Appendix G*.

TABLE 10-1
INTERSECTION TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY[47]

Key Intersection	Time Period	(1) Existing With ELSP Project Buildout Traffic Conditions		(2) Year 2022 With ELSP Project Phase I Traffic Conditions		(3) Year 2040 With ELSP Project Buildout Traffic Conditions	
		Part A of Warrant 3 Satisfied?	**Part B of Warrant 3 Satisfied?**	**Part A of Warrant 3 Satisfied?**	**Part B of Warrant 3 Satisfied?**	**Part A of Warrant 3 Satisfied?**	**Part B of Warrant 3 Satisfied?**
5. Lucerne Street at Lakeshore Drive	Weekday AM	**Yes**	**Yes**	--	--	--	--
	Weekday PM	**Yes**	**Yes**	--	--	--	--
	Saturday Midday	**Yes**	**Yes**	--	--	--	--
8. Mission Trail at Campbell Street	Weekday AM	--	--	No	No	No	No
	Weekday PM	--	--	No	No	No	No
	Saturday Midday	--	--	No	No	No	No
12. Mission Trail at Victorian Lane	Weekday AM	No	No	--	--	--	--
	Weekday PM	No	No	--	--	--	--
	Saturday Midday	No	No	--	--	--	--
22. Stoneman Street at Grand Avenue	Weekday AM	No	No	**Yes**	**Yes**	--	--
	Weekday PM	No	No	**Yes**	**Yes**	--	--
	Saturday Midday	No	No	No	No	--	--

Notes:

- Signal Warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant contained in the *California MUTCD.*

[47] *Appendix G* contains the Traffic Signal Warrant Analysis worksheets for the key unsignalized impacted study intersections.

11.0 PROJECT FAIR SHARE ANALYSIS

The transportation impacts associated with the development of the proposed East Lake Specific Plan were determined based on the future conditions analysis with and without the proposed Project. The key study locations forecast to operate at adverse levels of service are discussed below. As such, the proposed Project's "fair share" of the recommended improvements has been calculated for the key study locations that are forecast to operate at adverse levels of service in the Existing With ELSP Project Buildout, Year 2022 With ELSP Project Phase I, and Year 2040 With ELSP Project Buildout traffic conditions.

11.1 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

11.1.1 *Intersections*

Table 11-1 presents the Weekday AM, Weekday PM, and Saturday Midday peak hours ELSP Project Phase I fair share percentages at the key study intersections that are forecast to operate at adverse levels of service in the Year 2022 With ELSP Project Phase I traffic conditions. As presented in *Table 11-1*, the first column (1) presents a total of all intersection peak hour movements for Existing conditions. The second column (2) presents traffic associated with Year 2022 Without ELSP Project Phase I conditions. The third column (3) presents Year 2022 With ELSP Project Phase I traffic. The fourth column (4) represents the ELSP Project Phase I fair share based on the following formula:

- Project Fair Share (4) = [Column (3) - Column (2)/[Column (3) - Column (1)]*100

The ELSP Project Phase I fair share percentages (worse time period impacted) for the eleven (11) impacted intersections for the Existing With ELSP Project Phase I traffic conditions are shown below:

- 1. Railroad Canyon Road at Summerhill Lane/Grape Street 100.00%[48]
- 4. Diamond Drive at Casino Drive/Auto Center Drive 32.01%[49]
- 6. Diamond Drive at Lakeshore Drive/Mission Trail 100.00%[48]
- 7. Diamond Drive at Campbell Street 27.41%
- 8. Mission Trail at Campbell Street 40.42%
- 9. Diamond Drive at Malaga Road 46.02%
- 15. Croydon Road at Cereal Street 61.60%
- 17. Orange Street at Bundy Canyon Road 48.01%
- 18. I-15 SB Ramps at Bundy Canyon Road 42.16%
- 22. Stoneman Street at Grand Avenue 18.62%
- 24. Grape Street at I-15 Northbound Ramps 5.54%

[48] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[49] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

11.1.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed ELSP Project Phase I is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments for the Existing With ELSP Project Buildout traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

11.2 Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

11.2.1 *Intersections*

Table 11-2 presents the Weekday AM, Weekday PM, and Saturday Midday peak hours ELSP Project Buildout fair share percentages at the key study intersections that are forecast to operate at adverse levels of service in the Year 2040 With ELSP Project Buildout traffic conditions. As presented in *Table 11-2*, the first column (1) presents a total of all intersection peak hour movements for Existing conditions. The second column (2) presents traffic associated with Year 2040 Without ELSP Project Buildout conditions. The third column (3) presents Year 2040 With ELSP Project Buildout traffic. The fourth column (4) represents the ELSP Project Buildout fair share based on the following formula:

- Project Fair Share (4) = [Column (3) - Column (2)/[Column (3) - Column (1)]*100

The ELSP Project Buildout fair share percentages (worse time period impacted) for the eleven (11) impacted intersections for the Existing With ELSP Project Buildout traffic conditions are shown below:

- 1. Railroad Canyon Road at Summerhill Lane/Grape Street 100.00%[50]
- 3. Diamond Drive at I-15 Northbound Ramps 18.10%
- 4. Diamond Drive at Casino Drive/Auto Center Drive 21.54%[51]
- 6. Diamond Drive at Lakeshore Drive/Mission Trail 100.00%[50]
- 7. Diamond Drive at Campbell Street 4.79%
- 8. Mission Trail at Campbell Street 34.65%
- 9. Diamond Drive at Malaga Road 13.99%
- 18. I-15 SB Ramps at Bundy Canyon Road 17.87%
- 21. Mission Trail at Palomar Street 12.72%
- 22. Stoneman Street at Grand Avenue 6.41%
- 24. Grape Street at I-15 Northbound Ramps 10.00%

11.2.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed ELSP Project Buildout is not forecast to have a significant impact at any of the thirty-two (32) key roadway segments for the Year

[50] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[51] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

2040 With ELSP Project Buildout traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

TABLE 11-1

YEAR 2022 WITH ELSP PROJECT PHASE I TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection		Impacted Time Period	(1) Existing Traffic	(2) Year 2022 Without ELSP Project Phase I Traffic	(3) Year 2022 With ELSP Project Phase I Traffic	(4) Project Fair Share Responsibility
1.	Railroad Canyon Road at Summerhill Lane/Grape Street	AM	4,470	4,985	5,480	**100.00%**[52]
		PM	4,689	5,367	5,893	**100.00%**[52]
		Midday	4,933	6,484	6,969	**100.00%**[52]
4.	Diamond Drive at Casino Drive/Auto Center Drive	Midday	2,410	4,292	5,178	**32.01%**[53]
6.	Diamond Drive at Lakeshore Drive/Mission Trail	PM	2,034	2,620	3,761	**100.00%**[52]
		Midday	2,372	4,351	5,457	**100.00%**[52]
7.	Diamond Drive at Campbell Street	Midday	403	2,265	2,968	**27.41%**
8.	Mission Trail at Campbell Street	Midday	1,534	1,876	2,108	**40.42%**
9.	Diamond Drive at Malaga Road	Midday	328	1,440	2,388	**46.02%**
15.	Croydon Road at Cereal Street	AM	1,122	1,516	2,148	**61.60%**
17.	Orange Street at Bundy Canyon Road	AM	1,866	2,280	2,599	43.52%
		PM	1,845	2,302	2,724	**48.01%**
		Midday	1,417	2,588	2,888	20.39%
18.	I-15 Southbound Ramps at Bundy Canyon Road	AM	2,348	2,765	3,069	**42.16%**
		Midday	1,744	2,904	3,190	19.78%
22.	Stoneman Avenue at Grand Avenue	AM	1,319	1,717	1,797	16.74%
		PM	1,492	1,986	2,099	**18.62%**
24.	Grape Street at I-15 Northbound Ramps	Midday	2,558	3,479	3,533	**5.54%**

Notes:

- Net Project Percent Increase (4) = [Column (3) – Column (2)] / [Column (3) – Column (1)]
- **Bold Project Fair Share Responsibility** is based on worse case

[52] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[53] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

TABLE 11-2

YEAR 2040 WITH ELSP PROJECT BUILDOUT TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection		Impacted Time Period	(1) Existing Traffic	(2) Year 2040 Without ELSP Project Buildout Traffic	(3) Year 2040 With ELSP Project Buildout Traffic	(4) Project Fair Share Responsibility
1.	Railroad Canyon Road at Summerhill Lane/Grape Street	AM	4,470	7,050	7,497	**100.00%**[54]
		PM	4,689	7,955	8,568	**100.00%**[54]
		Midday	4,933	9,169	9,813	**100.00%**[54]
3.	Diamond Drive at I-15 Southbound Ramps	Midday	3,514	6,943	7,701	**18.10%**
4.	Diamond Drive at Casino Drive/Auto Center Drive	AM	1,896	4,253	4,900	**21.54%**[55]
		PM	2,102	5,432	6,291	20.51%[53]
		Midday	2,410	7,310	8,245	16.02%[53]
6.	Diamond Drive at Lakeshore Drive/Mission Trail	AM	1,591	3,797	4,556	**100.00%**[54]
		PM	2,034	4,908	5,995	**100.00%**[54]
		Midday	2,372	6,682	7,855	**100.00%**[54]
7.	Diamond Drive at Campbell Street	Midday	403	3,722	3,889	**4.79%**
8.	Mission Trail at Campbell Street	PM	1,200	2,125	2,575	32.73%
		Midday	1,534	2,464	2,957	**34.65%**
9.	Diamond Drive at Malaga Road	Midday	328	1,914	2,172	**13.99%**
18.	I-15 Southbound Ramps at Bundy Canyon Road	AM	2,348	3,777	4,088	**17.87%**
		Midday	1,744	3,746	4,064	13.71%
21.	Mission Trail at Palomar Street	AM	991	2,491	2,639	8.98%
		PM	873	2,444	2,673	**12.72%**
22.	Stoneman Avenue at Grand Avenue	AM	1,319	3,041	3,159	**6.41%**
24.	Grape Street at I-15 Northbound Ramps	AM	2,383	2,842	2,893	**10.00%**
		PM	2,366	3,523	3,619	7.66%
		Midday	2,558	4,565	4,663	4.66%

Notes:

- Net Project Percent Increase (4) = [Column (3) – Column (2)] / [Column (3) – Column (1)]
- **Bold Project Fair Share Responsibility** is based on worse case

[54] The mitigation at this intersection only mitigates up to pre-Project level. As such, the Project would be responsible for 100% of costs.

[55] The mitigation at this intersection is considered infeasible and is included for informational purposes only.

12.0 EXISTING CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of ramp intersections and basic freeway segments. Based on the *Caltrans Traffic Impact Study Guidelines, dated December 2002, Caltrans* endeavors to maintain a target LOS at the transition between LOS "C" and "D" on State highway facilities and *Caltrans District 8* has typically established that LOS D is the operating standard for all Caltrans facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than appropriate target LOS, the existing service level should be maintained.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following six (6) Caltrans freeway segments:

1. I-15 Northbound *from* Baxter Road to Bundy Canyon Road
2. I-15 Northbound *from* Bundy Canyon Road to Railroad Canyon Road
3. I-15 Northbound *from* Railroad Canyon Road to Main Street
4. I-15 Southbound *from* Main Street to Railroad Canyon Road
5. I-15 Southbound *from* Railroad Canyon Road to Bundy Canyon Road
6. I-15 Southbound *from* Bundy Canyon Road to Baxter Road

Additionally, Freeway Merge and Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
2. I-15 Southbound On-Ramp *from* Railroad Canyon Road
3. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road

The City of Lake Elsinore and Caltrans is currently in the process of improving the Railroad Canyon Road and I-15 Interchange. Following the public review period of the Draft EIR/EIS, and considering public input, the Riverside County Transportation Commission (RCTC) and Caltrans have identified Alternative 2 as the preferred project alternative. Alternative 2 is split into two phases, both of which are anticipated to be completed by Year 2022 and thus is incorporated in the Year 2022 and Year 2040 analysis. Phase I includes reconstructing/widening Railroad Canyon Road under crossing from 4 lanes to 6 lanes from Summerhill Drive/Grape Street to Casino Road, replacing the existing northbound ramps off of Railroad Canyon Road with hook ramps off of Grape Street, and adding ramp acceleration/deceleration lanes for both the northbound and southbound ramps. Phase II includes the construction of a full interchange at Franklin Street and the I-15, adding auxiliary lanes from the Franklin Street Interchange to the Main Street Interchange as well as to the Railroad Canyon Road Interchange for both the northbound and southbound directions,

realign/widen the Main Street southbound on-ramp from 1 lane to 2 lanes, and construct a new frontage road on the west and east side of the I-15.

12.1 Existing Conditions Basic Freeway Segment Capacity Analysis

Table 12-1 summarizes the peak hour Level of Service results at the six (6) basic freeway segments for the Existing and Existing with ELSP Project Buildout traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Existing With ELSP Project Buildout traffic conditions. The third column (3) shows whether the traffic associated with the Project (ELSP Project Buildout) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fourth column (4) presents the Level of Service with the implementation of improvements, if necessary.

12.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 12-1* indicates that all six (6) basic freeway segments are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under the Existing traffic conditions based on the LOS standards defined in this report.

12.1.2 *Existing With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (2) of *Table 12-1* indicates that all six (6) basic freeway segments are forecast to operate at acceptable levels of service during the AM and PM peak hours under the Existing With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report.

Review of column (3) of *Table 12-1* indicates that none of the six (6) basic freeway segments will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report.

Please note that some basic freeway segments may operate at a slightly better level of service in the Existing With ELSP Project Buildout traffic conditions compared to the Existing traffic conditions due to the inclusion of the ELSP Buildout internal network. With the addition of the East Lake Specific Plan Buildout internal network, existing volumes are shifted along adjacent roadways and freeway segments due to the alternative paths of travel, as modeled utilizing LETAM. Existing volumes were shifted based on the differences between the "2007 Base Model" and the "2007 Base Model with the ELSP Buildout Network (No Project)." These shifts may lead to decreasing volumes at certain segments, thus yielding lower delays.

Appendix H contains the Basic Freeway Segments Analysis Calculation Worksheets for the Existing and Existing with ELSP Project Buildout Traffic Conditions.

TABLE 12-1

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[56]

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Existing With ELSP Project Buildout Traffic Conditions			(3) Significant Impact	(4) Existing With ELSP Project Buildout With Mitigation		
		Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1. I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	AM	2,983	16.3	B	2,997	16.3	B	No	--	--	--
	PM	4,517	24.8	C	4,569	25.2	C	No	--	--	--
2. I-15 Northbound *from* Bundy Canyon Rd *to* Railroad Canyon Rd	AM	3,121	17.0	B	3,089	16.8	B	No	--	--	--
	PM	3,984	21.7	C	3,910	21.3	C	No	--	--	--
3. I-15 Northbound *from* Railroad Canyon Road *to* Main Street	AM	4,092	22.3	C	4,115	22.4	C	No	--	--	--
	PM	4,155	22.7	C	4,011	21.9	C	No	--	--	--
4. I-15 Southbound *from* Main Street *to* Railroad Canyon Road	AM	5,079	28.7	D	5,061	28.6	D	No	--	--	--
	PM	5,164	29.3	D	5,190	29.5	D	No	--	--	--
5. I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	AM	5,028	28.3	D	5,004	28.1	D	No	--	--	--
	PM	4,423	24.3	C	4,291	23.5	C	No	--	--	--
6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	AM	5,492	32.0	D	5,589	32.9	D	No	--	--	--
	PM	4,279	23.4	C	4,181	22.8	C	No	--	--	--

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-5* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[56] *Appendix H* contains the Density/LOS calculation worksheets for all study basic freeway segments.

12.2 Existing Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 12-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Existing traffic conditions. The first column (1) of *Table 12-2* identifies the type of analysis, i.e., merge or diverge analysis. The second column (2) lists time period. The third column (3) lists Existing traffic conditions. The fourth column (4) lists Existing With ELSP Project Buildout traffic conditions. The fifth column (5) of *Table 12-2* shows whether the traffic associated with the ELSP Project Buildout will have a significant impact based on the LOS standards and the significance impact criteria defined in this report.

12.2.1 *Existing Traffic Conditions*

Review of column (3) of *Table 12-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing traffic conditions based on the LOS standards defined in this report.

12.2.2 *Existing With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (4) of *Table 12-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report.

Review of column (5) of *Table 12-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report.

Please note that some merge and diverge segments may operate at a slightly better level of service in the Existing With ELSP Project Buildout traffic conditions compared to the Existing traffic conditions due to the inclusion of the ELSP Buildout internal network. With the addition of the East Lake Specific Plan Buildout internal network, existing volumes are shifted along adjacent roadways and freeway segments due to the alternative paths of travel, as modeled utilizing LETAM. Existing volumes were shifted based on the differences between the "2007 Base Model" and the "2007 Base Model with the ELSP Buildout Network (No Project)." These shifts may lead to decreasing volumes at certain segments, thus yielding lower delays.

Appendix I contains the Freeway Merge and Diverge Segments Analysis Calculation Worksheets for the Existing and Existing with ELSP Project Buildout Traffic Conditions.

TABLE 12-2

EXISTING WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[57]

Key Freeway Merge or Diverge Segment	(1) Analysis Type	(2) Time Period	(3) Existing Traffic Conditions				(4) Existing With ELSP Project Buildout Traffic Conditions				(5) Significant Impact
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. I-15 Northbound Off-Ramp *to* Railroad Canyon Road	Diverge Analysis	AM	3,121	523	22.2	C	3,089	483	21.9	C	No
		PM	3,984	833	27.2	C	3,910	854	26.9	C	No
2. I-15 Northbound On-Ramp *from* Railroad Canyon Road	Merge Analysis	AM	2,598	1,494	26.5	C	2,606	1,509	26.6	C	No
		PM	3,181	1,004	25.3	C	3,056	955	24.5	C	No
3. I-15 Southbound Off-Ramp *to* Railroad Canyon Road	Diverge Analysis	AM	5,079	971	23.1	C	5,061	949	23.0	C	No
		PM	5,164	1,300	24.2	C	5,190	1,325	24.4	C	No
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road	Merge Analysis	AM	4,108	920	29.5	D	4,112	892	29.3	D	No
		PM	3,864	559	25.5	C	3,865	426	24.5	C	No

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-6* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[57] *Appendix I* contains the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

13.0 YEAR 2022 CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of ramp intersections and basic freeway segments. Based on the *Caltrans Traffic Impact Study Guidelines, dated December 2002, Caltrans* endeavors to maintain a target LOS at the transition between LOS "C" and "D" on State highway facilities and *Caltrans District 8* has typically established that LOS D is the operating standard for all Caltrans facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than appropriate target LOS, the existing service level should be maintained.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following six (6) Caltrans freeway segments:

1. I-15 Northbound *from* Baxter Road to Bundy Canyon Road
2. I-15 Northbound *from* Bundy Canyon Road to Railroad Canyon Road
3. I-15 Northbound *from* Railroad Canyon Road to Main Street
4. I-15 Southbound *from* Main Street to Railroad Canyon Road
5. I-15 Southbound *from* Railroad Canyon Road to Bundy Canyon Road
6. I-15 Southbound *from* Bundy Canyon Road to Baxter Road

Additionally, Freeway Merge and Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
2. I-15 Southbound On-Ramp *from* Railroad Canyon Road
3. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road

The City of Lake Elsinore and Caltrans is currently in the process of improving the Railroad Canyon Road and I-15 Interchange. Following the public review period of the Draft EIR/EIS, and considering public input, the Riverside County Transportation Commission (RCTC) and Caltrans have identified Alternative 2 as the preferred project alternative. Alternative 2 is split into two phases, both of which are anticipated to be completed by Year 2022 and thus is incorporated in the Year 2022 and Year 2040 analysis. Phase I includes reconstructing/widening Railroad Canyon Road under crossing from 4 lanes to 6 lanes from Summerhill Drive/Grape Street to Casino Road, replacing the existing northbound ramps off of Railroad Canyon Road with hook ramps off of Grape Street, and adding ramp acceleration/deceleration lanes for both the northbound and southbound ramps. Phase II includes the construction of a full interchange at Franklin Street and the I-15, adding auxiliary lanes from the Franklin Street Interchange to the Main Street Interchange as well as to the Railroad Canyon Road Interchange for both the northbound and southbound directions,

realign/widen the Main Street southbound on-ramp from 1 lane to 2 lanes, and construct a new frontage road on the west and east side of the I-15.

13.1 Year 2022 Conditions Basic Freeway Segment Capacity Analysis

Table 13-1 summarizes the peak hour Level of Service results at the six (6) basic freeway segments for the Year 2022 traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Year 2022 Without East Lake Specific Plan Phase I traffic conditions and the third column (3) lists Year 2022 With ELSP Project Phase I traffic conditions. The fourth column (4) shows whether the traffic associated with the East Lake Specific Plan Phase I will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Basic Freeway Segment analysis includes the planned improvements from the Railroad Canyon Road and I-15 Interchange Project in the Year 2022 background traffic conditions.

13.1.1 *Year 2022 Without East Lake Specific Plan Phase I Traffic Conditions*

Review of column (2) of *Table 13-1* indicates that one (1) basic freeway segment is forecast to operate at an adverse level of service under the Year 2022 Without ELSP Project Phase I traffic conditions based on the LOS standards defined in this report. The remaining five (5) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2022 Without ELSP Project Phase I traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour			PM Peak Hour		
	Key Basic Freeway Segment	Pk Hr Volume	Density (pc/mi/ln)	LOS	Pk Hr Volume	Density (pc/mi/ln)	LOS
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	5,912	36.0	E	--	--	--

13.1.2 *Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions*

Review of column (3) of *Table 13-1* indicates that one (1) basic freeway segment is forecast to operate at an adverse level of service under the Year 2022 With ELSP Project Phase I traffic conditions based on the LOS standards defined in this report. The remaining five (5) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2022 With ELSP Project Phase I traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour			PM Peak Hour		
	Key Basic Freeway Segment	Pk Hr Volume	Density (pc/mi/ln)	LOS	Pk Hr Volume	Density (pc/mi/ln)	LOS
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	6,120	38.3	E	--	--	--

Review of column (4) of *Table 13-1* indicates that one (1) of the six (6) basic freeway segments will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 13-1*, the implementation of recommended mitigation measures at the impacted basic freeway segments, mitigates the impacts of the proposed East Lake Specific Plan (Phase I). After implementation of the recommended mitigation measures, the impacted basic freeway segment is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Please note that all basic freeway segments yield higher delay values in the Year 2022 With ELSP Project Phase I traffic conditions compared to the Year 2022 Without ELSP Project Phase I traffic conditions. Both of these scenarios utilize the same internal and external roadway networks. The East Lake Specific Plan Phase I traffic volumes is added directly on top of Year 2022 Without ELSP Project Phase I traffic conditions, resulting in an increase in volumes at all freeway segments and subsequently yielding higher delays.

Appendix J contains the Basic Freeway Segments Analysis Calculation Worksheets for the Year 2022 Traffic Conditions.

TABLE 13-1

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[58]

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2022 Without ELSP Project Phase I Traffic Conditions			(3) Year 2022 With ELSP Project Phase I Traffic Conditions			(4) Significant Impact	(5) Year 2022 With ELSP Project Phase I With Mitigation		
		Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1. I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	AM	2,983	16.3	B	3,165	17.3	B	3,210	17.5	B	No	--	--	--
	PM	4,517	24.8	C	4,828	26.9	D	5,0117	28.2	D	No	--	--	--
2. I-15 Northbound *from* Bundy Canyon Rd *to* Railroad Canyon Rd	AM	3,121	17.0	B	3,214	17.5	B	3,224	17.6	B	No	--	--	--
	PM	3,984	21.7	C	4,301	23.5	C	4,331	23.7	C	No	--	--	--
3. I-15 Northbound *from* Railroad Canyon Road *to* Franklin Street	AM	4,092	22.3	C	3,400	13.9	B	3,419	14.0	B	No	--	--	--
	PM	4,155	22.7	C	4,009	16.4	B	4,013	16.4	B	No	--	--	--
4. I-15 Southbound *from* Franklin Street *to* Railroad Canyon Road	AM	5,079	28.7	D	5,211	21.3	C	5,231	21.4	C	No	--	--	--
	PM	5,164	29.3	D	4,704	19.2	C	4,751	19.4	C	No	--	--	--
5. I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	AM	5,028	28.3	D	5,329	30.7	D	5,359	30.9	D	No	--	--	--
	PM	4,423	24.3	C	4,228	23.1	C	4,241	23.2	C	No	--	--	--
6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	AM	5,492	32.0	D	**5,912**	**36.0**	**E**	**6,120**	**38.3**	**E**	**Yes**	6,120	25.3	C
	PM	4,279	23.4	C	4,388	24.0	C	4,467	24.5	C	No	1,187	18.3	C

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-5* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[58] *Appendices H* and *J* contain the Density/LOS calculation worksheets for all study basic freeway segments.

13.2 Year 2022 Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 13-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Year 2022 traffic conditions. The first column (1) of *Table 13-2* identifies the type of analysis, i.e., merge or diverge analysis. The second column (2) lists time period. The third column (3) lists Existing traffic conditions and the fourth column (4) lists Year 2022 Without ELSP Project Phase I traffic conditions. The fifth column (5) lists Year 2022 With ELSP Project Phase I traffic conditions. The sixth column (6) of *Table 13-2* shows whether the traffic associated with the East Lake Specific Plan (Phase I) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report.

It should be noted that the Freeway Merge And Diverge Segment analysis includes the planned improvements from the Railroad Canyon Road and I-15 Interchange Project in the Year 2022 background traffic conditions.

13.2.1 *Year 2022 Without East Lake Specific Plan Project Phase I Traffic Conditions*

Review of column (4) of *Table 13-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 Without ELSP Project Phase I traffic conditions based on the LOS standards defined in this report.

13.2.2 *Year 2022 With East lake Specific Plan Phase I Traffic Conditions*

Review of column (5) of *Table 13-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 With ELSP Project Phase I traffic conditions based on the LOS standards defined in this report.

Review of column (6) of *Table 13-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2022 With ELSP Project Phase I traffic conditions when compared to the LOS criteria defined in this report.

Please note that all merge and diverge segments yield higher delay values in the Year 2022 With ELSP Project Phase I traffic conditions compared to the Year 2022 Without ELSP Project Phase I traffic conditions. Both of these scenarios utilize the same internal and external roadway networks. The East Lake Specific Plan Phase I traffic volumes is added directly on top of Year 2022 Without ELSP Project Phase I traffic conditions, resulting in an increase in volumes at all merge and diverge segments and subsequently yielding higher delays.

Appendix K contains the Freeway Merge And Diverge Segments Analysis Calculation Worksheets for the Year 2022 Traffic Conditions.

TABLE 13-2

YEAR 2022 WITH ELSP PROJECT PHASE I CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[59]

Key Freeway Merge or Diverge Segment	(1) Analysis Type	(2) Time Period	(3) Existing Traffic Conditions				(4) Year 2022 Without ELSP Project Phase I Traffic Conditions				(5) Year 2022 With ELSP Project Phase I Traffic Conditions				(6) Significant Impact
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No
1. I-15 Northbound Off-Ramp *to* Grape Street	Diverge Analysis	AM	I-15 NB Ramps at Grape Street do not exist under existing conditions. Replaces existing Railroad Canyon Road ramps.				3,214	565	11.6	B	3,224	575	11.7	B	No
		PM					4,301	1,035	18.0	B	4,331	1,065	18.2	B	No
2. I-15 Northbound On-Ramp *from* Grape Street	Merge Analysis	AM	I-15 NB Ramps at Grape Street do not exist under existing conditions. Replaces existing Railroad Canyon Road ramps.				2,649	751	10.7	B	2,649	770	10.9	B	No
		PM					3,266	743	12.7	B	3,266	747	12.7	B	No
3. I-15 Southbound Off-Ramp *to* Railroad Canyon Road	Diverge Analysis	AM	5,079	971	23.1	C	5,211	796	6.7	A	5,231	815	6.8	A	No
		PM	5,164	1,300	24.2	C	4,704	1,126	6.5	A	4,751	1,173	6.9	A	No
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road	Merge Analysis	AM	4,108	920	29.5	D	4,415	914	25.9	C	4,416	943	26.1	C	No
		PM	3,864	559	25.5	C	3,578	650	19.5	B	3,578	663	19.6	B	No

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-6* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[59] *Appendices I* and *K* contain the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

14.0 YEAR 2040 CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of analysis methods provided in the Highway Capacity Manual (*HCM)* for the analysis of ramp intersections and basic freeway segments. Based on the *Caltrans Traffic Impact Study Guidelines, dated December 2002, Caltrans* endeavors to maintain a target LOS at the transition between LOS "C" and "D" on State highway facilities and *Caltrans District 8* has typically established that LOS D is the operating standard for all Caltrans facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than appropriate target LOS, the existing service level should be maintained.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following six (6) Caltrans freeway segments:

1. I-15 Northbound *from* Baxter Road to Bundy Canyon Road
2. I-15 Northbound *from* Bundy Canyon Road to Railroad Canyon Road
3. I-15 Northbound *from* Railroad Canyon Road to Main Street
4. I-15 Southbound *from* Main Street to Railroad Canyon Road
5. I-15 Southbound *from* Railroad Canyon Road to Bundy Canyon Road
6. I-15 Southbound *from* Bundy Canyon Road to Baxter Road

Additionally, Freeway Merge and Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
2. I-15 Southbound On-Ramp *from* Railroad Canyon Road
3. I-15 Northbound Off-Ramp *to* Railroad Canyon Road
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road

The City of Lake Elsinore and Caltrans is currently in the process of improving the Railroad Canyon Road and I-15 Interchange. Following the public review period of the Draft EIR/EIS, and considering public input, the Riverside County Transportation Commission (RCTC) and Caltrans have identified Alternative 2 as the preferred project alternative. Alternative 2 is split into two phases, both of which are anticipated to be completed by Year 2022 and thus is incorporated in the Year 2022 and Year 2040 analysis. Phase I includes reconstructing/widening Railroad Canyon Road under crossing from 4 lanes to 6 lanes from Summerhill Drive/Grape Street to Casino Road, replacing the existing northbound ramps off of Railroad Canyon Road with hook ramps off of Grape Street, and adding ramp acceleration/deceleration lanes for both the northbound and southbound ramps. Phase II includes the construction of a full interchange at Franklin Street and the I-15, adding auxiliary lanes from the Franklin Street Interchange to the Main Street Interchange as well as to the Railroad Canyon Road Interchange for both the northbound and southbound directions,

realign/widen the Main Street southbound on-ramp from 1 lane to 2 lanes, and construct a new frontage road on the west and east side of the I-15.

14.1 Year 2040 Conditions Basic Freeway Segment Capacity Analysis

Table 14-1 summarizes the peak hour Level of Service results at the six (6) basic freeway segments for the Year 2040 traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Year 2040 With Adopted Specific Plan traffic conditions and the third column (3) lists Year 2040 With East Lake Specific Plan Project Buildout traffic conditions. The fourth column (4) shows whether the traffic associated with the East Lake Specific Plan (Buildout) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Basic Freeway Segment analysis includes the planned improvements from the Railroad Canyon Road and I-15 Interchange Project in the Year 2040 background traffic conditions.

14.1.1 *Year 2040 With Adopted Specific Plan Traffic Conditions*

Review of column (2) of *Table 14-1* indicates that three (3) basic freeway segments are forecast to operate at adverse levels of service under the Year 2040 With Adopted Specific Plan traffic conditions based on the LOS standards defined in this report. The remaining three (3) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2040 Adopted Specific Plan traffic conditions. The locations operating at adverse levels of service are listed below:

		AM Peak Hour			PM Peak Hour		
	Key Basic Freeway Segment	Pk Hr Volume	Density (pc/mi/ln)	LOS	Pk Hr Volume	Density (pc/mi/ln)	LOS
1.	I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	--	--	--	6,104	38.1	E
5.	I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	6,752	46.9	F	--	--	--
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	7,615	65.7	F	--	--	--

14.1.2 *Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (3) of *Table 14-1* indicates that four (4) basic freeway segments are forecast to operate at adverse levels of service under the Year 2040 With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. The remaining two (2) basic freeway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2040 With ELSP Project Buildout traffic conditions. The locations operating at adverse levels of service are listed below:

	Key Basic Freeway Segment	AM Peak Hour Pk Hr Volume	AM Peak Hour Density (pc/mi/ln)	AM Peak Hour LOS	PM Peak Hour Pk Hr Volume	PM Peak Hour Density (pc/mi/ln)	PM Peak Hour LOS
1.	I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	--	--	--	7,232	55.9	F
2.	I-15 Northbound *from* Bundy Canyon Rd *to* Railroad Canyon Rd	--	--	--	6,594	44.5	E
5.	I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	6,746	46.8	F	--	--	--
6.	I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	7,528	63.2	F	--	--	--

Review of column (4) of *Table 14-1* indicates that four (4) of the six (6) basic freeway segments will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 14-1*, the implementation of recommended mitigation measures at the impacted basic freeway segments, mitigates the impacts of the proposed East Lake Specific Plan (Buildout). After implementation of the recommended mitigation measures, the impacted basic freeway segments are forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Please note that some basic freeway segments may operate at a slightly better level of service in the Year 2040 With ELSP Project Buildout traffic conditions compared to the Year 2040 With Adopted Specific Plan traffic conditions. Both of these scenarios utilize the same internal and external roadway networks, however, the East Lake Specific Plan Buildout project description differs from the Adopted Specific Plan project description, thus resulting in different project volumes on the freeway segments. The segment volumes from the East Lake Specific Plan Buildout scenario can be greater or less than the segment volumes from the Adopted Specific Plan scenario, depending on the volumes and attractions/destinations defined by the project description and as modeled utilizing LETAM.

Appendix L contains the Basic Freeway Segments Analysis Calculation Worksheets for the Year 2040 Traffic Conditions.

TABLE 14-1

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[60]

Key Basic Freeway Segment	Time Period	(1) Existing Traffic Conditions			(2) Year 2040 With Adopted Specific Plan Traffic Conditions			(3) Year 2040 With ELSP Project Buildout Traffic Conditions			(4) Significant Impact	(5) Year 2040 With ELSP Project Buildout With Mitigation		
		Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1. I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road	AM	2,983	16.3	B	3,398	18.5	C	3,365	18.4	C	No	3,365	13.8	B
	PM	4,517	24.8	C	**6,104**	**38.1**	**E**	**7,232**	**55.9**	**F**	**Yes**	7,232	31.4	D
2. I-15 Northbound *from* Bundy Canyon Rd *to* Railroad Canyon Rd	AM	3,121	17.0	B	3,323	18.1	C	3,327	18.1	C	No	3,327	13.6	B
	PM	3,984	21.7	C	5,425	31.5	D	**6,594**	**44.5**	**E**	**Yes**	6,594	27.7	D
3. I-15 Northbound *from* Railroad Canyon Road *to* Franklin Street	AM	4,092	22.3	C	3,806	15.6	B	3,795	15.5	B	No	--	--	--
	PM	4,155	22.7	C	5,294	21.6	C	6,479	27.1	D	No	--	--	--
4. I-15 Southbound *from* Franklin Street *to* Railroad Canyon Road	AM	5,079	28.7	D	6,436	26.9	D	6,432	26.9	D	No	--	--	--
	PM	5,164	29.3	D	3,640	14.9	B	4,723	19.3	C	No	--	--	--
5. I-15 Southbound *from* Railroad Canyon Rd *to* Bundy Canyon Rd	AM	5,028	28.3	D	**6,752**	**46.9**	**F**	**6,746**	**46.8**	**F**	**Yes**	6,746	28.5	D
	PM	4,423	24.3	C	3,248	17.7	B	4,342	23.8	C	No	4,342	17.8	B
6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road	AM	5,492	32.0	D	**7,615**	**65.7**	**F**	**7,528**	**63.2**	**F**	**Yes**	7,528	33.4	D
	PM	4,279	23.4	C	3,922	21.4	C	4,977	27.9	D	No	4,977	20.4	C

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-5* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[60] *Appendices H* and L contain the Density/LOS calculation worksheets for all study basic freeway segments.

14.2 Year 2040 Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 14-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Year 2040 traffic conditions. The first column (1) of *Table 14-2* identifies the type of analysis, i.e., merge or diverge analysis. The second column (2) lists time period. The third column (3) lists Existing traffic conditions and the fourth column (4) lists Year 2040 With Adopted Specific Plan traffic conditions. The fifth column (5) lists Year 2040 With East Lake Specific Plan Project Buildout traffic conditions. The sixth column (6) of *Table 14-2* shows whether the traffic associated with the East Lake Specific Plan (Buildout) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The seventh column (7) presents the Level of Service with the implementation of improvements, if necessary

It should be noted that the Freeway Merge And Diverge Segment analysis includes the planned improvements from the Railroad Canyon Road and I-15 Interchange Project in the Year 2040 background traffic conditions.

14.2.1 *Year 2040 With Adopted Specific Plan Traffic Conditions*

Review of column (4) of *Table 14-2* indicates that one (1) freeway merge segment is forecast to operate at an adverse level of service under the Year 2040 With Adopted Specific Plan traffic conditions based on the LOS standards defined in this report. The remaining three (3) freeway merge and diverge segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under the Year 2040 With Adopted Specific Plan traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour				PM Peak Hour			
Key Basic Freeway Segment		Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1.	I-15 Southbound On-Ramp *from* Railroad Canyon Road	5,507	1,245	34.1	F	--	--	--	--

14.2.2 *Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions*

Review of column (5) of *Table 14-2* indicates that one (1) freeway merge segment is forecast to operate at an adverse level of service under the Year 2040 With ELSP Project Buildout traffic conditions based on the LOS standards defined in this report. The remaining three (3) freeway merge and diverge segments are forecast to operate at an acceptable LOS C or better during the AM and PM peak hours under the Year 2040 With ELSP Project Buildout traffic conditions. The location operating at an adverse level of service is listed below:

		AM Peak Hour				PM Peak Hour			
Key Basic Freeway Segment		Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1.	I-15 Southbound On-Ramp *from* Railroad Canyon Road	5,512	1,234	34.0	F	--	--	--	--

Review of column (6) of *Table 14-2* indicates that one (1) of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2040 With ELSP Project Buildout traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (7) of *Table 14-2*, the implementation of recommended mitigation measures at the impacted freeway merge segment, mitigates the impacts of the proposed East Lake Specific Plan (Buildout). After implementation of the recommended mitigation measures, the impacted freeway merge segment is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Please note that some merge and diverge segments may operate at a slightly better level of service in the Year 2040 With ELSP Project Buildout traffic conditions compared to the Year 2040 With Adopted Specific Plan traffic conditions. Both of these scenarios utilize the same internal and external roadway networks, however, the East Lake Specific Plan Buildout project description differs from the Adopted Specific Plan project description, thus resulting in different project volumes on the freeway segments. The segment volumes from the East Lake Specific Plan Buildout scenario can be greater or less than the segment volumes from the Adopted Specific Plan scenario, depending on the volumes and attractions/destinations defined by the project description and as modeled utilizing LETAM.

Appendix M contains the Freeway Merge and Diverge Segments Analysis Calculation Worksheets for the Year 2040 Traffic Conditions.

TABLE 14-2

YEAR 2040 WITH ELSP PROJECT BUILDOUT CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[61]

Key Freeway Merge or Diverge Segment	(1) Analysis Type	(2) Time Period	(3) Existing Traffic Conditions				(4) Year 2040 With Adopted Specific Plan Traffic Conditions				(5) Year 2040 With ELSP Project Buildout Traffic Conditions				(6) Significant Impact	(7) Year 2040 With ELSP Project Buildout With Mitigation			
			Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1. I-15 Northbound Off-Ramp *to* Grape Street	Diverge Analysis	AM	I-15 NB Ramps at Grape Street do not exist under existing conditions. Replaces existing Railroad Canyon Road ramps.				3,323	805	12.7	B	3,327	805	12.7	B	No	--	--	--	--
		PM					5,425	1,272	23.4	C	6,594	1,260	27.8	C	No	--	--	--	--
2. I-15 Northbound On-Ramp *from* Grape Street	Merge Analysis	AM	I-15 NB Ramps at Grape Street do not exist under existing conditions. Replaces existing Railroad Canyon Road ramps.				2,518	1,288	14.5	B	2,522	1,273	14.4	B	No	--	--	--	--
		PM					4,153	1,141	18.7	B	5,334	1,145	22.7	C	No	--	--	--	--
3. I-15 Southbound Off-Ramp *to* Railroad Canyon Road	Diverge Analysis	AM	5,079	971	23.1	C	6,436	929	11.2	B	6,432	920	11.2	B	No	--	--	--	--
		PM	5,164	1,300	24.2	C	3,640	1,254	4.8	A	4,723	1,227	7.2	A	No	--	--	--	--
4. I-15 Southbound On-Ramp *from* Railroad Canyon Road	Merge Analysis	AM	4,108	920	29.5	D	**5,507**	**1,245**	**34.1**	**F**	**5,512**	**1,234**	**34.0**	**F**	**Yes**	5,512	1,234	24.0	C
		PM	3,864	559	25.5	C	2,386	862	15.1	B	3,496	846	20.6	C	No	3,496	846	14.3	B

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- LOS = Level of Service, please refer to *Table 3-6* for the LOS definitions
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[61] *Appendices I* and *M* contain the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

15.0 CALTRANS FACILITIES PLANNED AND RECOMMENDED IMPROVEMENTS

For those basic freeway segments as well freeway merge and diverge segments where projected traffic volumes are expected to result in significant impacts, this report recommends improvements that change the basic freeway segments and/or freeway merge and diverge segments' geometry to increase capacity. These capacity improvements involve freeway widening and/or re-striping to reconfigure (add lanes) freeway. The identified improvements are expected to:

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

15.1 Railroad Canyon Road Interchange Project Planned Improvements

15.1.1 *Basic Freeway Segments*

15.1.1.1 Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout Traffic Conditions

The planned improvements listed below are anticipated to be completed in conjunction with the I-15 and Railroad Canyon Road Interchange Project and have been assumed in the Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:

- 3. I-15 Northbound *from* Railroad Canyon Road *to* Franklin Street: Add one (1) auxiliary lane connecting the Railroad Canyon Road On-Ramp to the Franklin Street Off-Ramp.
- 4. I-15 Southbound *from* Franklin Street *to* Railroad Canyon Road: Add one (1) auxiliary lane connecting the Franklin Street On-Ramp to the Railroad Canyon Road Off-Ramp.

15.1.2 *Freeway Merge And Diverge Segments*

15.1.2.1 Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout Traffic Conditions

The planned improvements listed below are anticipated to be completed in conjunction with the I-15 and Railroad Canyon Road Interchange Project and have been assumed in the Year 2022 Without ELSP Project Phase I, Year 2022 With ELSP Project Phase I, Year 2040 With Adopted Specific Plan and Year 2040 With ELSP Project Buildout traffic conditions:

- 1. I-15 Northbound Off-Ramp *to* Grape Street: Replace the existing off-ramp onto Railroad Canyon Road with a one-lane hook ramp onto Grape Street. Extend the deceleration lane to approximately 1,530 feet.
- 2. I-15 Northbound On-Ramp *from* Grape Street: Replace the existing on-ramp from Railroad Canyon Road with a one-lane hook ramp from Grape Street. The acceleration lane will tie in with the future auxiliary lane connecting to the Franklin Street off-ramp, approximately 2,400 feet downstream.

- 3. I-15 Southbound Off-Ramp *to* Railroad Canyon Road: Add a second off-ramp lane with an approximately 170 foot long deceleration lane. Configure the existing off-ramp lane to the proposed auxiliary lane connecting to the Franklin Street on-ramp approximately 1,950 feet upstream.
- 4. I-15 Southbound On-Ramp *from* Railroad Canyon Road: Extend the acceleration lane to approximately 1,500 feet.

15.2 Recommended Improvements

15.2.1 *Basic Freeway Segments*

15.2.1.1 Existing With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed East Lake Specific Plan (Buildout) will not have a significant impact at any of the six (6) basic freeway segments. All six (6) basic freeway segments are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions.

15.2.1.2 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed East Lake Specific Plan (Phase I) will significantly impact one (1) of the of six (6) basic freeway segments. The remaining five (5) basic freeway segments are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2022. The improvements listed below have been identified to address the traffic impacts at the basic freeway segments significantly impacted by the Year 2022 With ELSP Project Phase I traffic:

- 6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road: Add one (1) general purpose lane in the southbound direction.

15.2.1.3 Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed East Lake Specific Plan (Buildout) will significantly impact four (4) of the of six (6) basic freeway segments. The remaining two (2) basic freeway segments are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2040. The improvements listed below have been identified to address the traffic impacts at the basic freeway segments significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- 1. I-15 Northbound *from* Baxter Road *to* Bundy Canyon Road: Add one (1) general purpose lane in the northbound direction.
- 2. I-15 Northbound *from* Bundy Canyon Road *to* Railroad Canyon Road: Add one (1) general purpose lane in the northbound direction.

- 5. I-15 Southbound *from* Railroad Canyon Road *to* Bundy Canyon Road: Add one (1) general purpose lane in the southbound direction.
- 6. I-15 Southbound *from* Bundy Canyon Road *to* Baxter Road: Add one (1) general purpose lane in the southbound direction.

15.2.2 *Freeway Merge And Diverge Segments*

15.2.2.1 Existing With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the Existing With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed East Lake Specific Plan (Buildout) will not have a significant impact at any of the four (4) freeway merge and diverge segments. All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Existing With ELSP Project Buildout traffic conditions.

15.2.2.2 Year 2022 With East Lake Specific Plan Project Phase I Traffic Conditions

The results of the Year 2022 With ELSP Project Phase I traffic conditions level of service analyses indicate that the proposed Project (Phase I) will not have a significant impact at any of the four (4) freeway merge and diverge segments. All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Year 2022 With ELSP Project Phase I traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2022.

15.2.2.3 Year 2040 With East Lake Specific Plan Project Buildout Traffic Conditions

The results of the Year 2040 With ELSP Project Buildout traffic conditions level of service analyses indicate that the proposed East Lake Specific Plan (Buildout) will significantly impact one (1) of the of four (4) freeway merge and diverge segments. The remaining three (3) freeway merge and diverge segments are forecast to operate at acceptable levels of service under the Year 2040 With ELSP Project Buildout traffic conditions. It should be noted that the planned improvements from the Railroad Canyon Road Interchange Project have been included in the background traffic conditions for Year 2040. The improvements listed below have been identified to address the traffic impacts at the freeway merge segment significantly impacted by the Year 2040 With ELSP Project Buildout traffic:

- 4. I-15 Southbound On-Ramp *from* Railroad Canyon Road: The addition of the fourth southbound general purpose lane previously mentioned (*Section 15.2.1.3*) to mitigate basic freeway segment No. 5 (I-15 Southbound *from* Railroad Canyon Road *to* Bundy Canyon Road) under Year 2040 With ELSP Project Buildout traffic conditions will sufficiently offset the adverse level of service for this merge segment. No additional mitigation is needed.