Desert Grove Retail Project
(PLAN18-00049)

Final Environmental Impact Report
SCH No. 2018121029

August 2019

appliedplanning inc

FINAL ENVIRONMENTAL IMPACT REPORT

for the

Desert Grove Retail Project
(PLAN18-00049)

State Clearinghouse Number:
2018121029

Prepared for:

City of Victorville
14343 Civic Drive
Victorville, California 92393

Prepared by:

Applied Planning, Inc.
11762 De Palma Road, 1-C 310
Corona, CA 92883

August 2019

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1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 OVERVIEW

This document, combined with the Draft Environmental Impact Report (DEIR), constitutes the Final EIR for the Desert Grove Retail Project (Project). The DEIR describes existing environmental conditions relevant to the proposal, evaluates the Project's potential environmental effects, and identifies mitigation measures to reduce or avoid the potentially significant impacts. The DEIR was circulated for a 45-day review period: May 17 through July 1, 2019.

1.2 CONTENT AND FORMAT

Subsequent to this introductory Section 1.0, Section 2.0 of this Final EIR presents revisions and errata corrections to the DEIR text. Responses to comments received on the DEIR are presented in Final EIR Section 3.0. The EIR Mitigation Monitoring Program is presented in Final EIR Section 4.0.

1.3 DRAFT EIR COMMENTORS

1.3.1 Overview

The complete list of Draft EIR commentors, along with copies of comment letters and responses to comments, is presented in Section 3.0 of this Final EIR. The following list identifies the comment letters received in regard to the Draft EIR:

- Governor's Office of Planning and Research, State Clearinghouse
- Department of Transportation, District 8
- Lahontan Regional Water Quality Control Board
- Mojave Desert Air Quality Management District

1.3.2 Presentation of Comments and Responses

All comment letters received in regard to the Draft EIR are included, along with corresponding responses, in their entirety in Final EIR Section 3.0, *Comments and Responses*.

1.4 LEAD AGENCY AND POINT OF CONTACT

The Lead Agency for the Project and EIR is the City of Victorville. Any questions or comments regarding the preparation of this document, its assumptions, or its conclusions, should be referred to:

City of Victorville
14343 Civic Drive
Victorville, California 92393
Contact Person: Mike Szarzynski, Senior Planner

1.5 PROJECT SUMMARY

The following information is summarized from the Project Description in the Draft EIR. For additional detail in regard to Project characteristics and Project-related improvements, along with analyses of the Project's potential environmental impacts, please refer to Draft EIR Sections 3.0 and 4.0, respectively.

1.5.1 Project Location

The Project site is located at the southwesterly corner of the US-395/Palmdale Road (SR-18) intersection, in the City of Victorville (City).[1] US-395 and SR-18 at this location comprise the shared boundary between the City of Victorville and the City of Adelanto.

1.5.2 Project Overview

The proposed Desert Grove Retail Project (Project), including all proposed facilities, on- and off-site supporting improvements, and associated discretionary actions comprise the Project considered in this Environmental Impact Report (EIR). The Project proposes

[1] The Project site borders an existing fast-food restaurant that is located at the southwest corner of the US-395/SR-18 intersection. This existing fast-food restaurant is not a part of the Project.

development of approximately 96,300 square feet of commercial/retail uses on an approximately 14.8-acre site. The current site plan concept configures the Project uses as 10 pads, as summarized in Table 1.5-1.

Table 1.5-1
Proposed Uses

Pad	Use	Building Area	
1	Automatic Car Wash (Single-tenant)	2,700 square feet (sf)	
2	Retail/ Fast Food Restaurant (Multi-tenant)	6,000 sf	4,000 sf Retail
			2,000 sf Fast Food
3	Retail/Restaurant (Multi-tenant)	9,700 sf	5,200 sf Retail
			4,500 sf High Turnover Fast Casual Restaurant
4	Retail/Fast Food Restaurant (Multi-tenant)	5,000 sf	3,000 sf Retail
			2,000 sf Fast Food
5	Retail/Fast Food Restaurant (Multi-tenant)	5,000 sf	3,000 sf Retail
			2,000 sf Fast Food
6	Fast Food	2,800 sf	
7	Gas Station w/Convenience Store (Single-tenant)	5,268 sf (16 Vehicle Fueling Points, VFP)	
8	Retail (Multi-tenant)	32,000 sf	16,000 sf Retail Major
			16,000 sf Retail Major
9	Retail Anchor	15,560	
10	Retail Anchor	12,272	
TOTAL		**96,300 Square Feet (16 VFP)**	

Source: Desert Grove Retail Project Site Plan Concept (Avalon Architectural) April 1, 2019.
Notes: Within the Project site, individual uses and allocation of building pad areas are subject to future modification(s). All modifications would be contingent on approval by the Lead Agency and may require additional environmental analysis.

1.5.3 Project Objectives

Project Objectives include the following:

- Create a new mix of uses that capitalizes on the site's location in proximity to surrounding commercial retail facilities;

- Provide a commercial retail shopping center that serves the local market area and beyond;

- Attract new customers and retailers to the City of Victorville;

- Transition the Project site from its current unimproved state to a commercial development, with resulting new fiscal benefits to the City of Victorville. Benefits will include new sales tax revenues and increased property tax revenues;

- Develop the Project site with uses and at intensities the Lead Agency considers to be the highest and best use of the subject site; and

- Provide a commercial development that creates new jobs for City residents.

1.5.4 Discretionary Actions

1.5.4.1 Lead Agency Discretionary Actions and Permits

CEQA Guidelines Section 15124 states in pertinent part that if "a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed…" Discretionary actions and permits necessary to realize the Desert Grove Retail Project would include the following:

- Certification of the Desert Grove Retail Project EIR;

- Approval of Tentative Parcel Map(s);

- Approval(s) of Conditional Use Permits;

- Site Plan Approval(s);

- Approval of Infrastructure Improvement Plans including, but not limited to: roads, sewer, water, and storm water management systems; and

- City of Victorville construction, grading, and encroachment permits.

1.5.4.2 Other Agency Consultation and Permits

Anticipated consultation(s) and permits from agencies (other than the City) necessary to realize the Project would likely include, but are not limited to, the following:

- Permitting by/through the Lahontan Regional Water Quality Control Board (LRWQCB) consistent with requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.

- Permitting by/through the Mojave Desert Air Quality Management District (MDAQMD) for certain equipment or land uses that may be implemented within the Project area; and

- Various construction, grading, and encroachment permits allowing implementation of the Project facilities.

2.0 REVISIONS AND ERRATA CORRECTIONS

2.0 REVISIONS AND ERRATA CORRECTIONS

2.1 INTRODUCTION

As no substantive new or different information was provided through the public comment process, the findings and conclusions of the Draft EIR are not affected. The Lead Agency has determined that no revisions to the Draft EIR's text or graphic illustrations are needed.

3.0 COMMENTS AND RESPONSES

3.0 COMMENTS AND RESPONSES

3.1 INTRODUCTION

The following Section presents written comments received pursuant to public review of the DEIR and provides responses to those comments as required by California Code of Regulations, title 14 (hereinafter, "*CEQA Guidelines*") Sections 15089, 15132, and 15088. Specifically, *CEQA Guidelines* Section 15088, subd. (a) requires that: "[t]he lead agency . . . evaluate comments on environmental issues received from persons who reviewed the draft EIR and . . . prepare a written response. The lead agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments." The DEIR was circulated for a 45-day review period: May 17 through July 1, 2019.

In summary, the City's written responses describe the disposition of significant environmental issues raised and any revisions to the Draft EIR made as a result of the comments. Additionally, the City's written responses provide a good faith, reasoned analysis of all environmental issues raised and cite to specific factual and legal support for the Draft EIR's conclusions.

3.1.1 Comments Received

The following Section presents a list of the comment letters received during the Draft EIR public review period. Comment letters have been generally organized by state agencies; county, city, and local agencies; utilities; and local organizations and individuals. Each letter has been assigned an identifying designation (generally an acronym or name abbreviation), and topical items within each letter have been numbered. Table 3-1 lists all DEIR commentors and the designation assigned to each. Commentor correspondence

and correlating responses are presented subsequently. Comments have been reproduced verbatim and without grammatical or typographical correction.

Table 3-1
DEIR Commentors

Commentor	Acronym Assigned	Correspondence Date
State Agencies		
State Clearinghouse	SCH	7/2/19
Department of Transportation, District 8	DOT	6/28/19
Regional & County Agencies		
Lahontan Regional Water Quality Control Board	WQCB	7/1/19
Mojave Desert Air Quality Management District	AQMD	5/20/19

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Gavin Newsom
Governor

Kate Gordon
Director

July 2, 2019

Mike Szarzynski
Victorville, City of
14343 Civic Drive
Victorville, CA 92393

Subject: Desert Grove Retail Project
SCH#: 2018121029

Dear Mike Szarzynski:

The State Clearinghouse submitted the above named EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on 7/1/2019, and the comments from the responding agency (ies) is (are) available on the CEQA database for your retrieval and use. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

SCH-1

Check the CEQA database for submitted comments for use in preparing your final environmental document: https://ceqanet.opr.ca.gov/2018121029/2 . Should you need more information or clarification of the comments, **we recommend that you contact the commenting agency directly**.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

cc: Resources Agency

STATE OF CALIFORNIA
GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
STATE CLEARINGHOUSE
SCH No. 2018121029

Response SCH-1

State Clearinghouse receipt of the Desert Grove Retail Project Draft EIR is acknowledged, as is the distribution of the Draft EIR to the listed State Agencies. The State-assigned Clearinghouse reference number (SCH No. 2018121029) and dates of the public review period for the Draft EIR (May 17 through July 1, 2019) are also acknowledged. As suggested, the CEQA database has been reviewed for any submitted comments. Consequently, the Lahontan Regional Water Quality Control Board comment letter was found to be listed on the CEQA database and has been addressed accordingly within this section.

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 722)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4557
FAX (909) 383-5936
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

June 28, 2019

File: 08-SBd-18-PM 101.05
08-SBd-395-PM 11

Michael Szarzynski
City of Victorville
P.O. Box 5001
Victorville, CA 92393

Desert Grove Retail Project (Formerly: Victorville Retail Project) (SCH# 2018121029) – Initial Study dated December 2018

Dear Mr. Szarzynski:

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Initial Study for the Desert Grove Retail Project (project), which proposes to construct retail, fast-food restaurants, high-turnover sit-down restaurants, and a gas station with convenience store. The project is located at the southwest corner of U.S. Highway 395 and State Route 18 in the City of Victorville.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act, it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the City of Victorville, due to the project's potential impact to the State facilities, it is also subject to the policies and regulations that govern the SHS. DOT-1

Revised Traffic Impact Analysis (TIA) was reviewed by the Community Planning, Traffic Operations, Forecasting, and Design units. The Preliminary Drainage Study and Water Quality Management Plan were reviewed by the Hydraulics unit. The Hydraulics unit has no further comments. Please see the remaining and/or additional comments below:

COMMUNITY PLANNING

1. According to the City of Victorville's General Plan Land Use Policy Zoning Map, the parcel located directly to the south on U.S. Highway 395 is currently zoned C2-T (General Commercial). Please provide vehicular access to this parcel. This is in accordance with policies outlined in the Smart Mobility Framework (SMF) and California Transportation Plan (CTP). DOT-2

TRAFFIC OPERATIONS

1. The proposed project site plan (Exhibit 1) is not legible and proposed accesses are not clear. Please clarify. DOT-3
2. Indicate the Opening Year, Interim Year, and General Plan Year in the Table of Contents and Headings. DOT-4
3. Perform the Intersection Control Evaluation (ICE) for the new signalized intersection of the proposed access Driveway 3/U.S. Highway 395 (#5) to determine whether signal, yield (roundabout), or stop control is most appropriate. DOT-5
4. The lane configurations and traffic volumes for westbound movement at the intersection of U.S. Highway 395/Seneca are missing in all Exhibits. Please explain. DOT-6
5. Provide the full site plan layout at State Route 18/U.S. Highway 395. The plan should cover all lane configurations from Pearmain Street to U.S. Highway 395 on State Route 18 and from State Route 18 to the proposed signalized access Driveway 3 on U.S. Highway 395 to verify that the proposed lane configurations matches with the TIA. The plan should show all proposed access driveways, existing and proposed striping, existing and proposed right of way, storage lengths, bike lanes, sidewalks, and roadway dimensions. A detailed review will be done during the Encroachment Permit Process. DOT-7
6. All the intersections' numbers of proposed driveways need to be indicated correctly in all exhibits and site plans. DOT-8
7. Provide the queue length analysis at the following intersections for all scenarios: DOT-9
    a. State Route 18/Pearmain Street (#1),
    b. U.S. Highway 395/Seneca Road (#3),
    c. State Route 18/U.S. Highway 395 (#4),
    d. Proposed access Driveway 1/State Route 18, and
    e. U.S. Highway 395/Proposed signalized access driveway 3 (#5).
8. Please indicate the legend for the intersection of U.S. Highway 395/proposed access Driveway 3 with proposed traffic signal in Exhibit 11A, Exhibit 14A, Exhibit 17A. DOT-10

FORECASTING

1. Page 5: Include details on discussions with City of Victorville staff regarding the ambient growth rate to derive Opening Year and Interim Year volumes. Alternatively, consider using SCAG's Growth Model 2040 (2016) which estimates a growth rate of 1.82% for Victorville. DOT-11

DESIGN

1. Explain why intersection or highway segment analyses were not performed west of Pearmain Street on State Route 18 and north of Seneca Rd on U.S. Highway 395. Consideration should be given for a potentially high volume of traffic may travelling from the South Adelanto area. DOT-12

Include Response to Comments with resubmittal. All comments should be addressed prior to proceeding with the Encroachment Permit Process.

Please continue to keep us informed of the project and other future updates, which could potentially impact the SHS and interfacing transportation facilities. If you have any questions regarding this letter, please contact Ricky Rivers at (909) 806-3298 or myself at (909) 383-3923. DOT-13

Sincerely,

ROSA F. CLARK
Office Chief
Local Development - Intergovernmental Review (LD-IGR)

California Department of Transportation
District 8
464 West 4th Street, 6th Floor
San Bernardino, CA 92401

Letter Dated June 28, 2019

Comment DOT-1

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Initial Study for the Desert Grove Retail Project (project), which proposes to construct retail, fast-food restaurants, high-turnover sit-down restaurants, and a gas station with convenience store. The project is located at the southwest corner of U.S. Highway 395 and State Route 18 in the City of Victorville.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act (CEQA), it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the City of Victorville, due to the project's potential impact to the State facilities, it is also subject to the policies and regulations that govern the SHS.

Revised Traffic Impact Analysis (TIA) was reviewed by the Community Planning, Traffic Operations, Forecasting, and Design units. The Preliminary Drainage Study and Water Quality Management Plan were reviewed by the Hydraulics unit. The Hydraulics unit has no further comments. Please see the remaining and/or additional comments below:

Response DOT-1

The commentor cites the Project Initial Study (IS). Close of comments date on the NOP/IS, as established by the Lead Agency, was January 11, 2019. The Draft EIR for the proposed Project has been provided to California Department of Transportation (DOT). Responses to DOT comments in the context of the EIR are presented here.

The summary Project Description provided by the commentor is materially correct. Receipt and review of the Project TIA, Drainage Study, and Water Quality Management Plan by the California Department of Transportation (DOT) is recognized and applicable responses are provided below.

DOT is recognized as the owner and operator of the State Highway System (SHS). DOT responsibilities under CEQA regarding impacts to the SHS are acknowledged.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-2

COMMUNITY PLANNING

1. *According to the City of Victorville's General Plan Land Use Policy Zoning Map, the parcel located directly to the south on U.S. Highway 395 is currently zoned C2-T (General Commercial). Please provide vehicular access to this parcel. This is in accordance with policies outlined in the Smart Mobility Framework (SMF) and California Transportation Plan (CTP).*

Response DOT-2

Existing access to the southerly adjacent parcel is already provided by an existing driveway that connects easterly to abutting US-395.

The southerly adjacent parcel is currently developed with a commercial trailer polishing use. There is no functional or other relationship between the Project and the southerly adjacent use. Provision of direct access between the Project and the southerly adjacent parcel as suggested by the commentor would not demonstrably improve local or area access. Moreover, access between the Project site and the southerly adjacent parcel may contribute to traffic conflicts by encouraging a mix of potentially incompatible vehicle types (e.g., automobile vs. commercial trailers); and by facilitating pass-through traffic that would access the Project site via the southerly adjacent parcel. This pass-through traffic would disrupt business operations of the southerly adjacent parcel and would result in potentially adverse traffic, noise, safety, and emergency access impacts.

The southerly adjacent parcel is not owned by, or otherwise controlled by, the Applicant or the Lead Agency; and there are no plans to consolidate the Project site and the southerly adjacent parcel. Should the southerly adjacent parcel be redeveloped in the future, the Lead Agency would ensure that any such future proposal is provided appropriate access.

Based on the preceding, the Lead Agency has determined that access between the Project site and the southerly adjacent parcel is not appropriate or required at this time.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-3

TRAFFIC OPERATIONS

1. *The proposed project site plan (Exhibit 1) is not legible and proposed accesses are not clear. Please clarify.*

Response DOT-3

Comment noted. The referenced TIA exhibit has been revised and is appended to this Final EIR at Appendix A.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-4

2. *Indicate the Opening Year, Interim Year, and General Plan Year in the Table of Contents and Headings.*

Response DOT-4

The TIA defines the Opening Year, Interim Year and General Plan Buildout Year within the applicable analysis discussion. For ease of reference, within the TIA, the Opening Year is defined as 2019 on page vii; the Interim Year is defined as 2029/2030 on page 37; and General Plan Buildout scenario is defined as 2040 on page viii. Moreover, the

Opening Year, Interim Year and General Plan Buildout Year have been clearly stated and defined within the Draft EIR. (Please refer to Sections 1, *Executive Summary* and 4.2, *Transportation/Traffic*.)

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-5

3. *Perform the Intersection Control Evaluation (ICE) for the new signalized intersection of the proposed access Driveway 3/U.S. Highway 395 (#5) to determine whether signal, yield (roundabout), or stop control is most appropriate.*

Response DOT-5

The ICE Evaluation is normally required as part of the Caltrans' encroachment permit/design review process. Since the ICE evaluation is a design detail and is unrelated to the CEQA process or the determination of potential environmental impacts, the Applicant has agreed to provide ICE Evaluation as part of the Encroachment Permit Process.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-6

4. *The lane configurations and traffic volumes for westbound movement at the intersection of U.S. Highway 395/Seneca are missing in all Exhibits. Please explain.*

Response DOT-6

As stated in the TIA, the westbound leg of the US-395/Seneca Road intersection does not currently exist; therefore, no traffic volumes are reported. As such, applicable lane configurations and traffic volumes for the westbound movement are provided in the General Plan buildout scenario discussion (Chapter 11) of the TIA.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-7

5. *Provide the full site plan layout at State Route 18/U.S. Highway 395. The plan should cover all lane configurations from Pearmain Street to U.S. Highway 395 on State Route 18 and from State Route 18 to the proposed signalized access Driveway 3 on U.S. Highway 395 to verify that the proposed lane configurations matches with the TIA. The plan should show all proposed access driveways, existing and proposed striping, existing and proposed right of way, storage lengths, bike lanes, sidewalks, and roadway dimensions. A detailed review will be done during the Encroachment Permit Process.*

Response DOT-7

Comment noted. The referenced TIA exhibits have been revised and are appended to this Final EIR at Appendix A.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-8

6. *All the intersections' numbers of proposed driveways need to be indicated correctly in all exhibits and site plans.*

Response DOT-8

Comment noted. The referenced TIA exhibits have been revised and are appended to this Final EIR at Appendix A.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-9

7. *Provide the queue length analysis at the following intersections for all scenarios:*
   a. State Route 18/Pearmain Street (#1),
   b. U.S. Highway 395/Seneca Road (#3),
   c. State Route 18/U.S. Highway 395 (#4),
   d. Proposed access Driveway 1/State Route 18, and

e. U.S. Highway 395/Proposed signalized access driveway 3 (#5).

Response DOT-9

Queueing analysis at the requested locations has been run in the traffic analyze software and is provided within Appendix A of this Final EIR. It should be noted that the HCM methodology/output of the analysis software does not provide queues for unsignalized intersections. Queue output sheets at SR-18/Pearmain Street (#1) and US-395/Seneca Road (#3) are only provided for scenarios where signalization is assumed to have occurred.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-10

8. *Please indicate the legend for the intersection of U.S. Highway 395/proposed access Driveway 3 with proposed traffic signal in Exhibit 1lA, Exhibit 14A, Exhibit 17A.*

Response DOT-10

Comment noted. The referenced TIA exhibits have been revised and are appended to this Final EIR at Appendix A.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-11

FORECASTING

1. *Page 5: Include details on discussions with City of Victorville staff regarding the ambient growth rate to derive Opening Year and Interim Year volumes. Alternatively, consider using SCAG's Growth Model 2040 (2016) which estimates a growth rate of 1.82% for Victorville.*

Response DOT-11

The Project Scoping Agreement (Appendix A of the TIA) was approved by the City of Victorville on January 4, 2017. Subsequently the traffic engineers met with City staff to

review and finalize the assumptions used in this analysis. Opening Year (2019) traffic volumes utilized an ambient growth rate of 3% per year for 3 years to account for ambient traffic growth and cumulative development. Per direction from City staff, interim year traffic volumes were interpolated based on the difference between existing traffic volumes and the General Plan Buildout (2040) traffic volumes derived from post processing General Plan Buildout volumes provided by SANBAG.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-12

DESIGN

1. *Explain why intersection or highway segment analyses were not performed west of Pearmain Street on State Route 18 and north of Seneca Rd on U.S. Highway 395. Consideration should be given for a potentially high volume of traffic may travelling from the South Adelanto area.*

Response DOT-12

Trip distribution and assignment was based on a select zone model run provided by SANBAG. Based on the select zone model run, no intersections to the west of Pearmain Street on SR-18 and no intersections to the north of Seneca Road on US-395 met the thresholds for inclusion in the traffic impact analysis.

No revisions to the EIR are required. Findings and conclusions of the EIR are not affected.

Comment DOT-13

Include Response to Comments with resubmittal. All comments should be addressed prior to proceeding with the Encroachment Permit Process.

Please continue to keep us informed of the project and other future updates, which could potentially impact the SHS and interfacing transportation facilities. If you have any questions regarding this letter, please contact Ricky Rivers at (909) 806-3298 or myself at (909) 383-3923.

Response DOT-13

Written responses to DOT comments have been provided pursuant to Public Resources Code Section 21092.5 and *CEQA Guidelines* Section 15088. Commentor point of contact is noted.

No revisions to the EIR are required. Findings and conclusion of the EIR are not affected.

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

Lahontan Regional Water Quality Control Board

July 1, 2019

File: Environmental Doc Review
San Bernardino County

Mike Szarzynski, Senior Planner
City of Victorville
14343 Civic Drive
Victorville, CA 92393
mszarzynski@victorvilleca.gov

Comments on Draft Environmental Impact Report for Desert Grove Retail Project, Victorville, State Clearinghouse Number 2018121029

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Draft Environmental Impact Report (DEIR) for the above-referenced project (Project). The DEIR, prepared by the City of Victorville (City), was submitted in compliance with provisions of California Environmental Quality Act (CEQA). Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations (CCR), title 14, section 15096. We thank the City for providing Water Board staff the opportunity to review and comment on the DEIR and for taking our previous comments on the Notice of Preparation into consideration. We would like to reiterate the potential need of several permits including the Federal Clean Water Act (CWA) Section 401 Water Quality Certification and the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit. WQCB-1

PERMITTING REQUIREMENTS

A number of activities associated with the proposed Project have potential to impact waters of the State and, therefore, may require permits issued by the State Water Resources Control Board (State Water Board) or the Lahontan Regional Water Board. The required permits may include the following: WQCB-2

1. Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. All unavoidable permanent impacts to waters of the State must be mitigated to ensure no net loss of beneficial use and wetland function and value. Water Board

staff coordinate mitigation requirements with staff from federal and other state regulatory agencies. In determining appropriate mitigation ratios for impacts to waters of the State, we consider Basin Plan requirements (minimum 1.5 to 1 mitigation ratio for impacts to wetlands) and utilize 12501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios, published December 2012 by the US Army Corps of Engineers, South Pacific Division.

2. Land disturbance of more than 1 acre may require CWA, section 402(p) storm water permits, including a NPDES General Construction Storm Water Permit, Water Quality Order 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board. Both of these permits require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

    a. The SWPPP should be applicable to all areas of the Project, including construction areas, access roads to and through the site, and staging and stockpile locations.

    b. The Project shall not result in an exceedance of any applicable water quality objective (WQO) for the receiving water. For this Project, the receiving waters are unnamed drainages of the Mojave Hydrologic Unit and groundwaters of the Upper Mojave River Valley Groundwater Basin. The primary water quality parameters potentially affected by the Project include chemical constituents (as defined by California Code of Regulations, title 22), oil and grease, pH, suspended materials, temperature, and turbidity. Numeric and narrative WQOs for these parameters in surface waters and groundwater are outlined in Chapter 3 of the Water Quality Control Plan for the Lahontan Region.

    c. Temporary best management practices (BMPs) must be implemented for all components of the Project until such time that vegetation has been restored to pre-Project conditions or permanent BMPs are in place and functioning.

Please be advised of the permits that may be required for the proposed Project, as outlined above. Should Project implementation result in activities that trigger these permitting actions, the Project proponent is highly recommended to consult with Water Board staff. Information regarding these permits, including application forms, can be downloaded from our web site at: http://www.waterboards.ca.gov/lahontan/.

Thank you for the opportunity to comment on the Project. If you have any questions regarding this letter, please contact me at (760) 241-7305 (tiffany.steinert@waterboards.ca.gov) or Jan Zimmerman, Senior Engineering Geologist, at (760) 241-7376 (jan.zimmerman@waterboards.ca.gov). Please send all

WQCB-2 cont'd.

WQCB-3

future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov and be sure to include the State Clearinghouse No. and Project name in the subject line.

WQCB-3 cont'd.

Tiffany Steinert

Tiffany Steinert
Engineering Geologist

cc: State Clearinghouse (state.clearinghouse@opr.ca.gov) (SCH #2018121029)
Ali Aghili, California Dept. of Fish and Wildlife (Ali.Aghili@wildlife.ca.gov)

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Lahontan Regional Water Quality Control Board
15095 Amargosa Road, Bldg. 2, Suite 210
Victorville, CA 92394

Letter Dated July 1, 2019

Comment WQCB-1

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Draft Environmental Impact Report (DEIR) for the above-referenced project (Project). The DEIR, prepared by the City of Victorville (City), was submitted in compliance with provisions of California Environmental Quality Act (CEQA). Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations (CCR), title 14, section 15096. We thank the City for providing Water Board staff the opportunity to review and comment on the DEIR and for taking our previous comments on the Notice of Preparation into consideration. We would like to reiterate the potential need of several permits including the Federal Clean Water Act (CWA) Section 401 Water Quality Certification and the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit.

Response WQCB -1

The City acknowledges and appreciates the commentor's participation in the Project CEQA EIR review process.

No revisions to the EIR are required. Findings and conclusion of the EIR are not affected.

Comment WQCB-2

A number of activities associated with the proposed Project have potential to impact waters of the State and, therefore, may require permits issued by the State Water Resources Control Board (State Water Board) or the Lahontan Regional Water Board. The required permits may include the following:

1. Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. All unavoidable permanent impacts to waters of the State must be mitigated to ensure no net loss of beneficial use and wetland function and value. Water Board staff coordinate mitigation requirements with staff from federal and other state regulatory agencies. In determining appropriate mitigation ratios for impacts to waters of the State, we consider Basin Plan requirements (minimum 1.5 to 1 mitigation ratio for impacts to wetlands) and utilize 12501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios, published December 2012 by the US Army Corps of Engineers, South Pacific Division.

2. Land disturbance of more than 1 acre may require CWA, section 402(p) storm water permits, including a NPDES General Construction Storm Water Permit, Water Quality Order 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board. Both of these permits require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

a. The SWPPP should be applicable to all areas of the Project, including construction areas, access roads to and through the site, and staging and stockpile locations.

b. The Project shall not result in an exceedance of any applicable water quality objective (WQO) for the receiving water. For this Project, the receiving waters are unnamed drainages of the Mojave Hydrologic Unit and groundwaters of the Upper Mojave River Valley Groundwater Basin. The primary water quality parameters potentially affected by the Project include chemical constituents (as defined by California Code of Regulations, title 22), oil and grease, pH, suspended materials, temperature, and turbidity. Numeric and narrative WQOs for these parameters in surface waters and groundwater are outlined in Chapter 3 of the Water Quality Control Plan for the Lahontan Region.

c. Temporary best management practices (BMPs) must be implemented for all components of the Project until such time that vegetation has been restored to pre-Project conditions or permanent BMPs are in place and functioning.

Please be advised of the permits that may be required for the proposed Project, as outlined above. Should Project implementation result in activities that trigger these permitting actions, the Project

proponent is highly recommended to consult with Water Board staff. Information regarding these permits, including application forms, can be downloaded from our web site at: http://www.waterboards.ca.gov/lahontan/.

Response WQCB -2

Stormwater management strategies and measures that would minimize Project impacts to area water quality were identified at Draft EIR Section 4.8, *Hydrology/Water Quality* and within the Project Drainage Study. The Project incorporates necessary drainage and stormwater management systems, and would comply with applicable Lahontan Regional Water Quality Control Board (LRWQCB) and State Water Resources Control Board (SWRCB) permitting requirements.

Findings and conclusions of the EIR are not affected.

Comment WQCB-3

Thank you for the opportunity to comment on the Project. If you have any questions regarding this letter, please contact me at (760) 241-7305 (tiffany.steinert@waterboards.ca .gov) or Jan Zimmerman, Senior Engineering Geologist, at (760) 241-7376 (jan.zimmerman@waterboards.ca.gov). Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov and be sure to include the State Clearinghouse No. and Project name in the subject line.

Response WQCB-3

Contact information provided by MDAQMD is noted.

Findings and conclusions of the EIR are not affected.

Mojave Desert Air Quality Management District
Brad Poiriez, *Executive Director*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
www.MDAQMD.ca.gov • @MDAQMD

May 20, 2019

Mike Szarzynski, Senior Planner
City of Victorville
Development Department
14343 Civic Dr.
Victorville, CA 92393

Project: Desert Grove Retail (PLAN 18-00049) [SCH No. 20181210029]

Dear Mr. Szarzynski:

The Mojave Desert Air Quality Management District (District) has received a request for comments for the Draft Environmental Impact Report (DEIR) for the Desert Grove Retail Project, a proposal to develop approximately 96,300 sq. ft. of commercial retail/uses (10 pads) within the approximately 14.8-acre Project site. The project is located at the southwesterly corner of the US-395/Palmdale Road (SR-18) intersection in the City of Victorville, comprising of a shared boundary between the City of Victorville and the City of Adelanto. AQMD-1

We have reviewed the project and concur with the findings listed in the DEIR including the Air Quality Impact Analysis (Appendix C). Based on the information available to us at this time, the District recommends the City require that that the following dust mitigation measures be required for the construction of the development (enforceable by the District AND by the land use agency):

- Prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;

- The following signage shall be erected not later than the commencement of construction:
  A minimum 48-inch high by 96-inch wide sign containing the following shall be located within 50-feet of each project site entrance, meeting the specified minimum text height, black text on white background, on one-inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day: AQMD-2

  "[Site Name] {four-inch text}
  [Project Name/Project Number] {four-inch text}
  IF YOU SEE DUST COMING FROM {four-inch text}
  THIS PROJECT CALL: {four-inch text}
  [Contact Name], PHONE NUMBER XXX-XXXX {six-inch text}
  If you do not receive a response, Please Call {three-inch text}
  The MDAQMD at 1-800-635-4617 {three-inch text}"

- Use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

- All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

- All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related trackout onto paved surfaces, and clean any project-related trackout within 24 hours. All other earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion.

AQMD-2 cont'd.

The District recognizes the nature of the project to have potentially significant and unavoidable impacts on air quality from its regional operational emissions and its cumulative impacts as a result of area, energy, and mobile source emissions. As over 99% of the Project's NOx emissions are derived from vehicle usage, the District also recommends that mobile source emissions be alleviated through encouragement of Zero Emission Vehicle use by implementing ZEV charging stations and planning effective transport infrastructures.

AQMD-3

As the proposed project also includes a Gasoline Dispensing Facility that will require an authority to construct from the District, the District also recommends that the City of Victorville require the submission of applicable permit applications and the associated application and permit fees to the District as a condition of approval.

AQMD-4

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Kevin Hendrawan at extension 4007.

AQMD-5

Sincerely,

Alan J. De Salvio
Deputy Director – Mojave Desert Operations

AJD/kh

Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

Letter Dated May 20, 2019

Comment AQMD-1

The Mojave Desert Air Quality Management District (District) has received a request for comments for the Draft Environmental Impact Report (DEIR) for the Desert Grove Retail Project, a proposal to develop approximately 96,300 sq. ft. of commercial retail/uses (10 pads) within the approximately 14.8-acre Project site. The project is located at the southwesterly corner of the US-395/Palmdale Road (SR-18) intersection in the City of Victorville, comprising of a shared boundary between the City of Victorville and the City of Adelanto.

We have reviewed the project and concur with the findings listed in the DEIR including the Air Quality Impact Analysis (Appendix C). Based on the information available to us at this time, the District recommends the City require that that the following dust mitigation measures be required for the construction of the development (enforceable by the District AND by the land use agency):

Response AQMD-1

The Project description as summarized by the commentor is materially correct.

The Lead Agency acknowledges, and herein has provided responses to, comments offered by the Mojave Desert Air Quality Management District (MDAQMD). Where considered appropriate by the Lead Agency, AQMD guidance and recommendations have been incorporated in this Final EIR.

Findings and conclusions of the EIR are not affected.

Comment AQMD-2

- *Prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;*
- *The following signage shall be erected not later than the commencement of construction:*

A minimum 48-inch high by 96-inch wide sign containing the following shall be located within SO-feet of each project site entrance, meeting the specified minimum text height, black text on white background, on one-inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

"[Site Name] {four-inch text}

[Project Name/Project Number] {four-inch text}

IF YOU SEE DUST COMING FROM {four-inch text}

THIS PROJECT CALL: {four-inch text}

[Contact Name], PHONE NUMBER XXX-XXXX {six-inch text} If you do not receive a response, Please Call {three-inch text}

The MDAQMD at 1-800-635-4617 {three-inch text}"

- *Use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.*
- *All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.*
- *All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related trackout onto paved surfaces, and clean any project-related trackout within 24 hours. All other earthen surfaces within the project*

area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion.

Response AQMD-2

MDAQMD recommends additional measures to be included in the EIR as mitigation for the Project's emissions impacts. The City would require that prior to issuance of a grading permit, the Applicant prepare and submit to the MDAQMD a dust control plan that describes dust control measures to be employed during Project construction activities. The Applicant would implement all fugitive dust control measures required by the City.

Findings and conclusions of the EIR are not affected.

Comment AQMD-3

The District recognizes the nature of the project to have potentially significant and unavoidable impacts on air quality from its regional operational emissions and its cumulative impacts as a result of area, energy, and mobile source emissions. As over 99% of the Project's NOx emissions are derived from vehicle usage, the District also recommends that mobile source emissions be alleviated through encouragement of Zero Emission Vehicle use by implementing ZEV charging stations and planning effective transport infrastructures.

Response AQMD-3

The Applicant has agreed to work with City staff and attempt to install Zero Emission Vehicle (ZEV) charging stations within the Project site. The precise number and location will be determined through this consultation process and will be determined prior to the issuance of the first building permit for the Project.

Findings and conclusions of the EIR are not affected.

Comment AQMD-4

As the proposed project also includes a Gasoline Dispensing Facility that will require an authority to construct from the District, the District also recommends that the City of Victorville require the

submission of applicable permit applications and the associated application and permit fees to the District as a condition of approval.

Response AQMD-4

The City acknowledges the District's permitting authority in regard to gasoline dispensing facilities. To ensure compliance with MDAQMD requirements, as part of its development review and building permit processes, the Lead Agency requires documented completion of the District's permitting requirements, including the payment of requisite fees.

Findings and conclusions of the EIR are not affected.

Comment AQMD-5

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Kevin Hendrawan at extension 4007.

Response AQMD-5

Contact information provided by MDAQMD is noted.

Findings and conclusions of the EIR are not affected.

4.0 MITIGATION MONITORING PROGRAM

4.0 MITIGATION MONITORING PROGRAM

4.1 INTRODUCTION

To ensure that the mitigation measures contained in this EIR are properly implemented, a mitigation monitoring program has been developed pursuant to state law. This Mitigation Monitoring Program (MMP) identifies measures incorporated in the Project which reduce its potential environmental effects; the entities responsible for implementation and monitoring of mitigation measures; and timing for implementation of mitigation measures. As described in *CEQA Guidelines* §15097, this MMP employs both reporting on, and monitoring of, Project mitigation measures.

The objectives of the MMP are to:

- Assign responsibility for, and further proper implementation of mitigation measures;
- Assign responsibility for, and provide for monitoring and reporting of compliance with mitigation measures;
- Provide the mechanism to identify areas of noncompliance and need for enforcement action before irreversible environmental damage occurs.

Mitigation monitoring and reporting procedures incorporated in the Project are presented in the following Section 4.2. Specific mitigation measures incorporated in the Project, mitigation timing, and implementation and reporting/monitoring responsibilities are presented within this Section in Table 4.2-1.

4.2 MITIGATION MONITORING AND REPORTING

Mitigation Monitoring and Responsibilities

As the Lead Agency, the City of Victorville is responsible for ensuring full compliance with the mitigation measures adopted for the proposed Project. The City will monitor and report on all mitigation activities. Mitigation measures will be implemented at different stages of development throughout the Project area. In this regard, the responsibilities for implementation have been assigned to the Applicant, Contractors, Building Owner/Lessee/Operators or combinations thereof.

If during the course of Project implementation, any of the mitigation measures identified herein cannot be successfully implemented, the City shall be immediately informed, and the City will then inform any affected responsible agencies. The City, in conjunction with any affected responsible agencies, will then determine if modification to the Project is required and/or whether alternative mitigation is appropriate.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
Traffic and Circulation				
4.2.1 *The Applicant shall pay fair share fees toward those Table 4.2-16 improvements under the jurisdiction of the City not reflected in the City's current CIP. Prior to building permit issuance for each building, fair share fees for that building shall be calculated by the City. Prior to issuance of a Certificate of Occupancy for the considered building, the Project Applicant shall pay that building's required fair share fee amounts. Where intersection improvements require additional through lanes, fair share fees shall also be applied to construction of required through lane/roadway segment improvements.*	Fees shall be paid prior to issuance of each Certificate of Occupancy.	Applicant	City of Victorville	City shall verify receipt of fees prior to issuance of each Certificate of Occupancy.
4.2.2 *The Applicant shall pay fair share fees toward those Table 4.2-22 improvements under the jurisdiction of the City not reflected in the City's current CIP. Prior to building permit issuance for each building, fair share fees for that building shall be calculated by the City. Prior to issuance of a Certificate of Occupancy for the considered building, the Project Applicant shall pay that building's required fair share fee amounts. Where intersection improvements require additional through lanes, fair share fees shall also be applied to construction of required through lane/roadway segment improvements.*	Fees shall be paid prior to issuance of each Certificate of Occupancy.	Applicant	City of Victorville	City shall verify receipt of fees prior to issuance of each Certificate of Occupancy.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

	Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
4.2.3	*Prior to building permit issuance for each building, the Project Applicant shall pay that building's required fair share fee amounts toward the construction of City of Victorville improvements required under General Plan Buildout With-Project Conditions, listed at EIR Table 4.2-28 and not included in the City's current CIP. Where intersection improvements require additional through lanes, fair share fees shall also be applied to construction of required through lane/roadway segment improvements.*	Fees shall be paid prior to issuance of each Building Permit.	Applicant	City of Victorville	City shall verify receipt of fees prior to issuance of each Building Permit.
Biological Resources					
4.9.1	*In Spring 2019, prior to any site disturbances, a qualified biologist shall conduct protocol surveys for the desert tortoise. If continued absence of this species is confirmed, no additional mitigation will be required. If, however, desert tortoise is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the potential Project impacts to desert tortoise and the appropriate mitigation measures. Mitigation measures may include avoidance, in-lieu fees, or habitat preservation/restoration.* *After consultation and agreement with the wildlife agencies, and prior to any site disturbances, the Project Applicant shall construct permanent desert tortoise exclusion fencing around the perimeter of the site using the USFWS's fence*	Prior to any site disturbances and throughout construction.	Applicant, Project Biologist	City of Victorville; CDFW and USFWS (if appropriate)	Ongoing throughout construction.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
specifications to ensure that no desert tortoise moves onto the site. A qualified biologist will be present during the installation of the desert tortoise exclusion fence to ensure that the installation process does not result in take of the desert tortoise. The desert tortoise exclusion fence will be repaired immediately (within 48 hours) if it is not serving its intended purpose. *Immediately after the desert tortoise exclusion fence is constructed around the site, the qualified biologist will conduct a presence absence survey using belt transects with a maximum width of 30 feet. If the site has vegetation or topography that obscures or reduces the biologist's ability to see a desert tortoise or desert tortoise sign, the width of the transect will be reduced, as appropriate. The qualified biologist will examine every location that the desert tortoise may use as shelter within the site; therefore, a special emphasis will be placed on examining the interior of all burrows that could be used by the desert tortoise as shelter sites. Burrows would not be excavated to determine if desert tortoises are present. Results of fence construction monitoring and the presence absence surveys will be reported to the USFWS and CDFW. Any tortoises found on-site shall be relocated to other locations as approved by the City, CDFW, and USFWS.*				

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

	Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
	Prior to initiation of any construction related activities (including equipment or vehicle staging), the limits of disturbance will be clearly marked with temporary construction fencing or lath with flagging tape, and the qualified biologist will survey the entire area within limits of disturbance in the morning prior to the initiation of any such activities. During construction, a biological monitor (may be different than the qualified biologist, as approved by the USFWS and CDFW) will survey ahead of all equipment to ensure that no desert tortoises are present in the anticipated path of the equipment. Results of the daily surveys and construction monitoring will be reported to the USFWS and CDFW following construction documenting compliance with these measures.				
4.9.2	*In Spring 2019, prior to any site disturbances, focused breeding season surveys for the burrowing owl shall be conducted. If absence of this species is confirmed, no additional mitigation will be required. If, however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls.*	Prior to any site disturbances and throughout construction.	Applicant, Project Biologist	City of Victorville; CDFW and USFWS (if appropriate)	Ongoing throughout construction.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

	Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
	As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. *If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.*				
4.9.3	*In Spring 2019, prior to any site disturbances, a qualified biologist shall conduct pre-construction surveys for the Mohave ground squirrel (MGS) consistent with the January 1991 Guidelines, as modified in January 2003. Visual surveys to determine activity and habitat quality must be undertaken between March 16 and April 15, during daylight hours. If visual surveys do not reveal the presence of this species, trapping grids shall be established to trap for a minimum of five consecutive days, or until an MGS is captured, between March 21 and April 30. If no MGS is captured during the first five-day period, the grid will be sampled a second time, at least two weeks after the first period and between May 1 and May 31. If no MGS is captured during the second five-day period, the grid will be sampled a*	Prior to any site disturbances and throughout construction.	Applicant, Project Biologist	City of Victorville; CDFW and USFWS (if appropriate)	Ongoing throughout construction.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

	Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
	third time, at least two weeks after the end of the second period and between June 15 and July 15. If the continued absence of the MGS is confirmed, no further mitigation shall be required. *Alternatively, the Project Applicant shall pay $1,000/acre to CDFW as security for the acquisition of suitable replacement habitat, plus $250/acre to CDFW for any necessary enhancement of the property, plus $1,300/acre to CDFW as an endowment to protect the property. Within 18 months of such payment, as extended at CDFW discretion, the Project Applicant shall purchase suitable replacement habitat and deed it to CDFW. At that time, CDFW shall return the $1,000/acre acquisition fee, and any remainder of the $250/acre enhancement fee not required for the replacement habitat.*				
4.9.4	*In Spring 2019, prior to any site disturbances, focused protocol spring time surveys shall be conducted for special-status plant species. If special-status plant species are encountered on-site, mitigation shall be accomplished as specified in a formal agreement between CDFW, USFWS and the Project Applicant, to include marking plant locations with a pin flag in spring when plants are in bloom, then salvaging soil, seeds and roots in fall after plants have died back for the winter, followed by transplant to the closest adjacent suitable preserved habitat, as specified by CDFW/USFWS.*	Prior to any site disturbances and throughout construction.	Applicant	City of Victorville; CDFW and USFWS	Ongoing throughout construction.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
4.9.5 *A biological monitor must be on-site during all ground disturbance activities, and will halt any such activities if, in his or her professional opinion, such activities will result in the take of a protected species.*	During all ground disturbance activities.	Applicant, Biological Monitor	City of Victorville	Ongoing throughout construction.
4.9.6 *Limits of the Project site shall be clearly marked by stakes or other means to ensure that off-site areas are not disturbed by Project construction activities.*	Throughout construction.	Applicant, Construction Contractor	City of Victorville	Ongoing throughout construction.
4.9.7 *Prior to any site disturbances or any earthmoving activities, the Project Applicant shall consult with the Corps to determine if a Corps 404 permit is required for the Project. If the Corps determine a 404 permit is required, then the Project Applicant shall obtain the 404 permit from the Corps prior to initiating any site disturbances or any earthmoving activities.*	Prior to any site disturbances or any earthmoving activities.	Applicant	City of Victorville	Prior to any site disturbances or any earthmoving activities.
4.9.8 *Prior to any site disturbances or any earthmoving activities, the Project Applicant shall consult with the California Regional Water Quality Control Board to determine if a Regional Board 401 certification is required for the Project. If the Regional Board determines that a 401 certification is required, then the Project Applicant shall obtain the 401 certification from the Regional Board prior to initiating any site disturbances or any earthmoving activities.*	Prior to any site disturbances or any earthmoving activities.	Applicant	City of Victorville	Prior to any site disturbances or any earthmoving activities.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
4.9.9 *Prior to any site disturbances or any earthmoving activities, the Project Applicant shall complete and submit to CDFW a notification package pursuant to Fish and Game Code Section 1602, together with the requisite fee. Based on its review of the notification package, CDFG shall determine applicable provisions of a Project Lake or Streambed Alteration Agreement (LSAA). The Applicant shall obtain the LSAA from CDFW prior to initiating any site disturbances or any earthmoving activities and will comply with all included LSAA measures to protect fish and wildlife resources.*	Prior to any site disturbances or any earthmoving activities.	Applicant	City of Victorville	Prior to any site disturbances or any earthmoving activities.
4.9.10 *In order to avoid impacts to nesting birds within the Project area, vegetation clearing and grading shall be conducted outside the nesting season. The nesting season generally occurs from February 15 through August 31, but can vary slightly from year to year. If clearing of the site will occur during the nesting season, no more than thirty (30) days prior to site clearing/grading, a breeding bird survey shall be conducted by a qualified biologist. This survey shall identify any potential nesting activities within the Project site. If an active nest is observed, a minimum 300 foot radius buffer area shall be established and clearly designated by flags or other suitable means around the occupied nests(s). Until any nestlings have fledged, periodic monitoring by a qualified biologist shall be conducted throughout construction activities to ensure that nesting birds are not disturbed. Such monitoring shall be conducted at least once per week.*	Within 30 days prior to disturbance at the Project site.	Applicant, Project Biologist	City of Victorville	On-going monitoring shall be conducted throughout construction activities.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
Cultural Resources				
4.10.1 *If previously-unidentified archaeologic or historic resources of potential significance are encountered during grading and/or other ground-disturbing activities, work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist (Project archaeologist) meeting Secretary of Interior standards shall be contacted to identify and interpret the encountered resources. The Project archaeologist shall have the authority to stop or divert construction excavation, as necessary. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted regarding the find and be provided information as to the archaeologist's assessment of the find, so as to provide Tribal input with regards to significance and treatment. Monitoring shall be considered complete and may be discontinued at the conclusion of grading/ground-disturbing activities, or at an earlier date should the qualified professional, in cooperation with SMBMI, determine that on-site activities would not disturb cultural resources of potential significance.*	On-going monitoring for potential archaeologic or historic resources shall be conducted during grading and/or ground-disturbing activities.	Applicant, Contractors	City of Victorville, Project Archaeologist	On-going monitoring shall be conducted throughout ground-disturbing activities and at the discretion/direction of the Project Archaeologist.
4.10.2 *If the Project archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register, plans for the treatment, evaluation, and mitigation of impacts to the find shall be developed. Drafts of these plans shall be provided to SMBMI for review and comment.*	Ongoing throughout construction.	Applicant, Contractors	City of Victorville, Project Archaeologist	On-going monitoring shall be conducted throughout ground-disturbing activities and at the discretion/direction of the Project Archaeologist.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

	Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
4.10.3	*At least 30 days prior to application for a grading permit and prior to any Project ground-disturbing activities, the Applicant shall retain a qualified paleontologist, selected in consultation with the City (Project Paleontological Monitor/Consultant). The Project Paleontological Monitor/Consultant shall be on-site and shall conduct on-going monitoring of affected areas for potential discovery of potentially of potentially significant paleontological resources. Alternatively, the Project Paleontological Monitor/Consultant shall prepare and submit to the City, a letter substantiating that monitoring is not necessary.*	At least 30 days prior to application for a grading permit and prior to any Project ground-disturbing activities.	Applicant, Contractors	City of Victorville, Project Paleontological Monitor	On-going monitoring shall be conducted throughout ground-disturbing activities and at the discretion/direction of the Project Paleontological Monitor.
4.10.4	*If monitoring is required, the Project Paleontological Monitor/Consultant shall have the authority to temporarily halt ground-disturbing activities if paleontological resources (finds) of potential significance are encountered. At the direction of the Project Paleontological Monitor/Consultant, ground-disturbing activities in the immediate vicinity of the find shall cease until the potential significance of the encountered find can be assessed. Work may continue in other areas of the Project site and for other Project elements while the encountered find is evaluated.* *If potentially significant paleontological resources are encountered, they shall be analyzed in accordance with standard guidelines, recovered, and curated with the appropriate facility. if disturbed resources are required to be*	Ongoing throughout construction.	Applicant, Contractors	City of Victorville, Project Paleontological Monitor	On-going monitoring shall be conducted throughout ground-disturbing activities and at the discretion/direction of the Project Paleontological Monitor.

Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
collected and preserved, the applicant shall be required to participate financially up to the limits imposed by Public Resources Code Section 21083.2. *At the conclusion of monitoring activities, the Project Paleontological Monitor/Consultant shall document monitoring results together with disposition of any encountered finds in a report to the City.*				
4.10.5 *The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted if any pre-contact cultural resources are discovered during Project implementation, and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the Project archaeologist (see MM 4.10.1), in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the Project, should SMBMI elect to place a monitor on-site.*	On-going monitoring shall be conducted during Project implementation.	Applicant	City of Victorville, Project Archaeologist	On-going monitoring shall be conducted throughout ground-disturbing activities and at the discretion/direction of the Project Archaeologist.
4.10.6 *Any and all archeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and Lead Agency for dissemination to SMBMI.*	On-going monitoring shall be conducted during Project implementation.	Project Archaeologist	City of Victorville, Applicant, SMBMI	On-going monitoring shall be conducted during Project implementation.

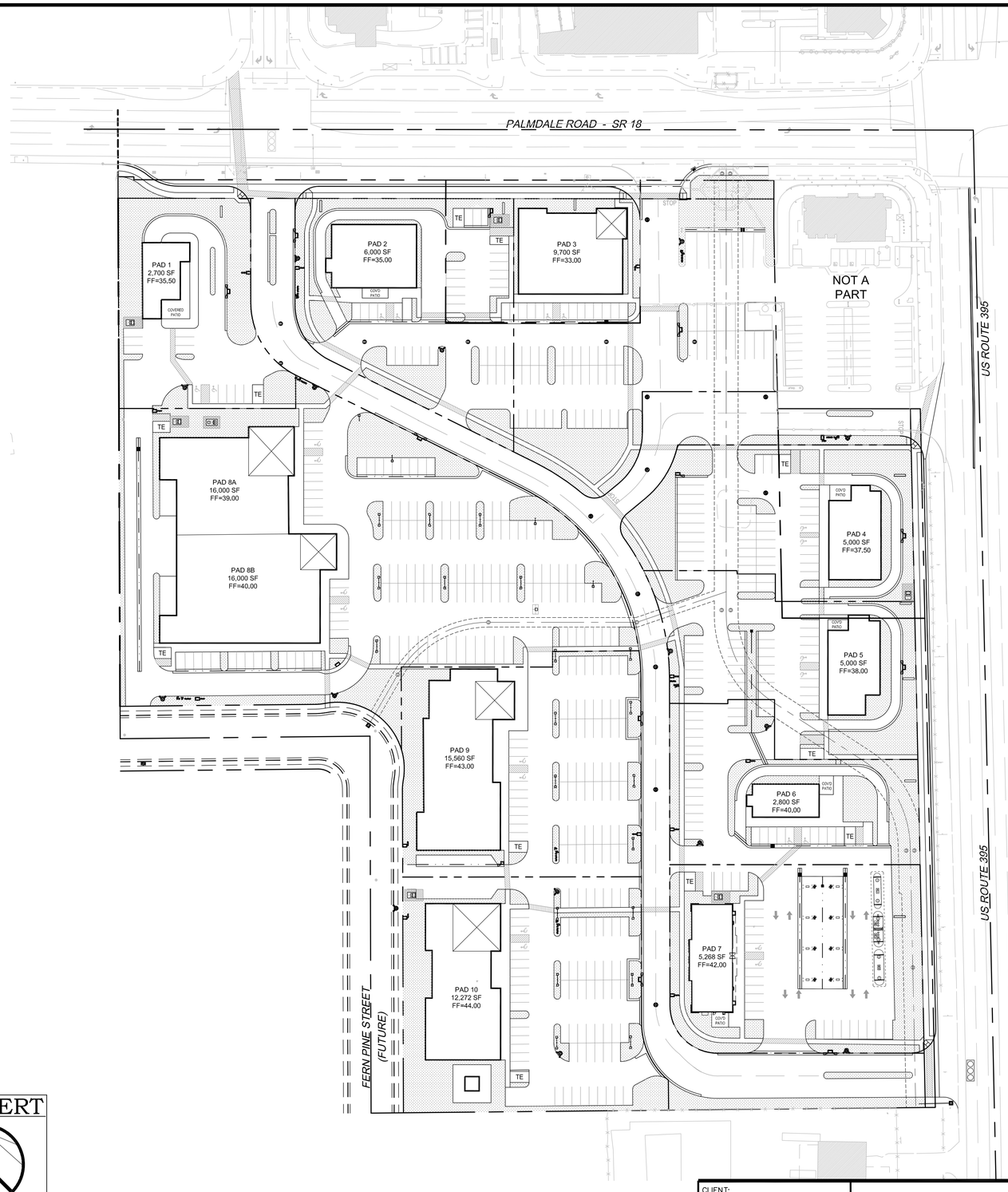
Table 4.2-1
Desert Grove Retail Project
Mitigation Monitoring Program

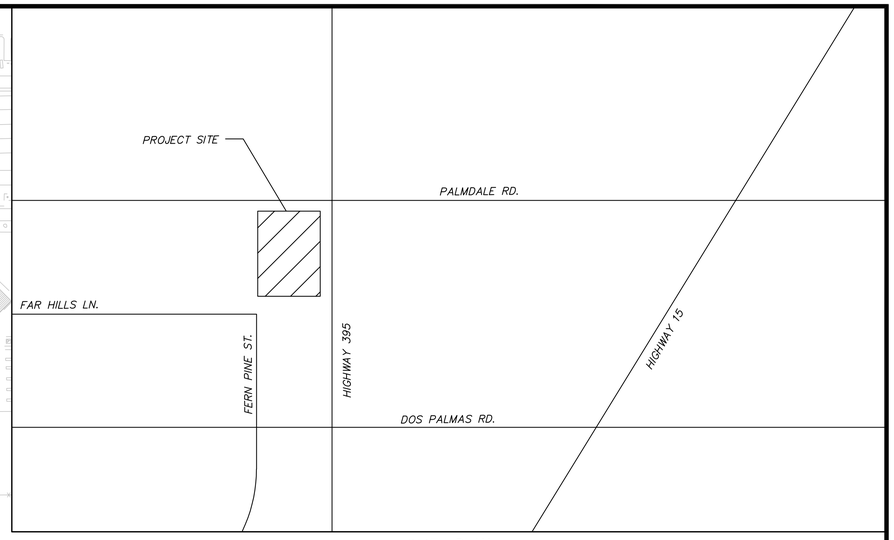
General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Mitigation Measures	Mitigation Timing	Implementation Entity	Monitoring/ Reporting Entity	Monitoring/Reporting Frequency
The Lead Agency and/or Applicant shall, in good faith, consult with SMBMI throughout the life of the Project.				

Appendix A:
Revised TIA Exhibits and Analyses

REVISED TIA EXHIBITS





INDEX PLAN
NTS

60 30 0 60 120
SCALE: 1"=60'

DIGALERT

CALL BEFORE YOU DIG
1-800-227-2600
AT LEAST
2 WORKING DAY
NOTICE REQUIRED

CITY CASE NO. 18-00049

CITY OF VICTORVILLE
DEVELOPMENT DEPARTMENT
Approved By:
, Building Official — DATE

CITY OF VICTORVILLE
ENGINEERING DEPARTMENT
Approved By:
Brian Gengler
City Engineer
RCE 44730 Exp. 03-31-20 — DATE

CLIENT:
BROADWAY CHINATOWN, LLC
PO BOX 15813
LOS ANGELES 15813

BLUE PEAK ENGINEERING, INC.
18543 YORBA LINDA BL., #235
YORBA LINDA, CA 92886
714.749.3077

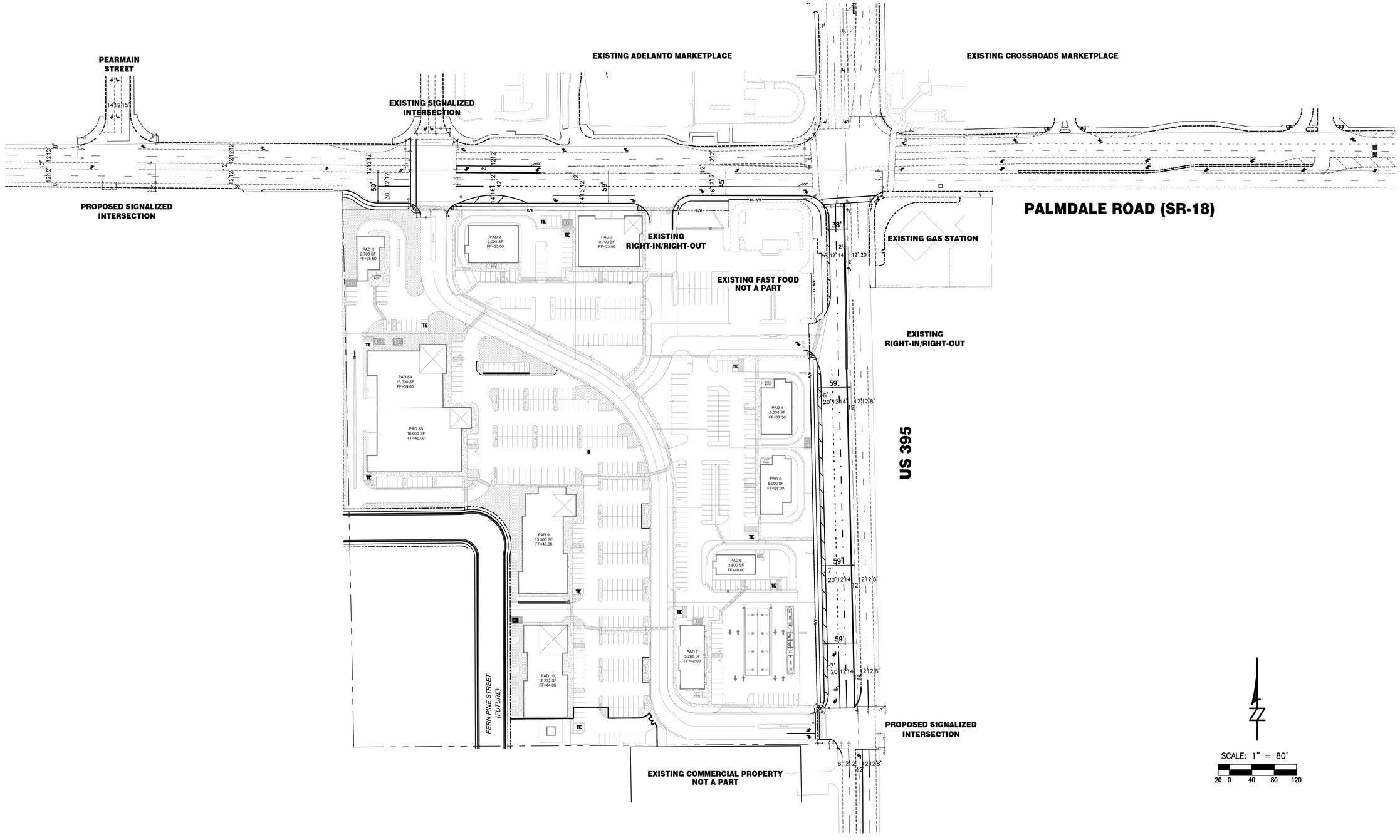
NO.	REVISIONS	BY	DATE

VICTORVILLE RETAIL PROJECT
SWC US 395 & SR-18

SITE PLAN

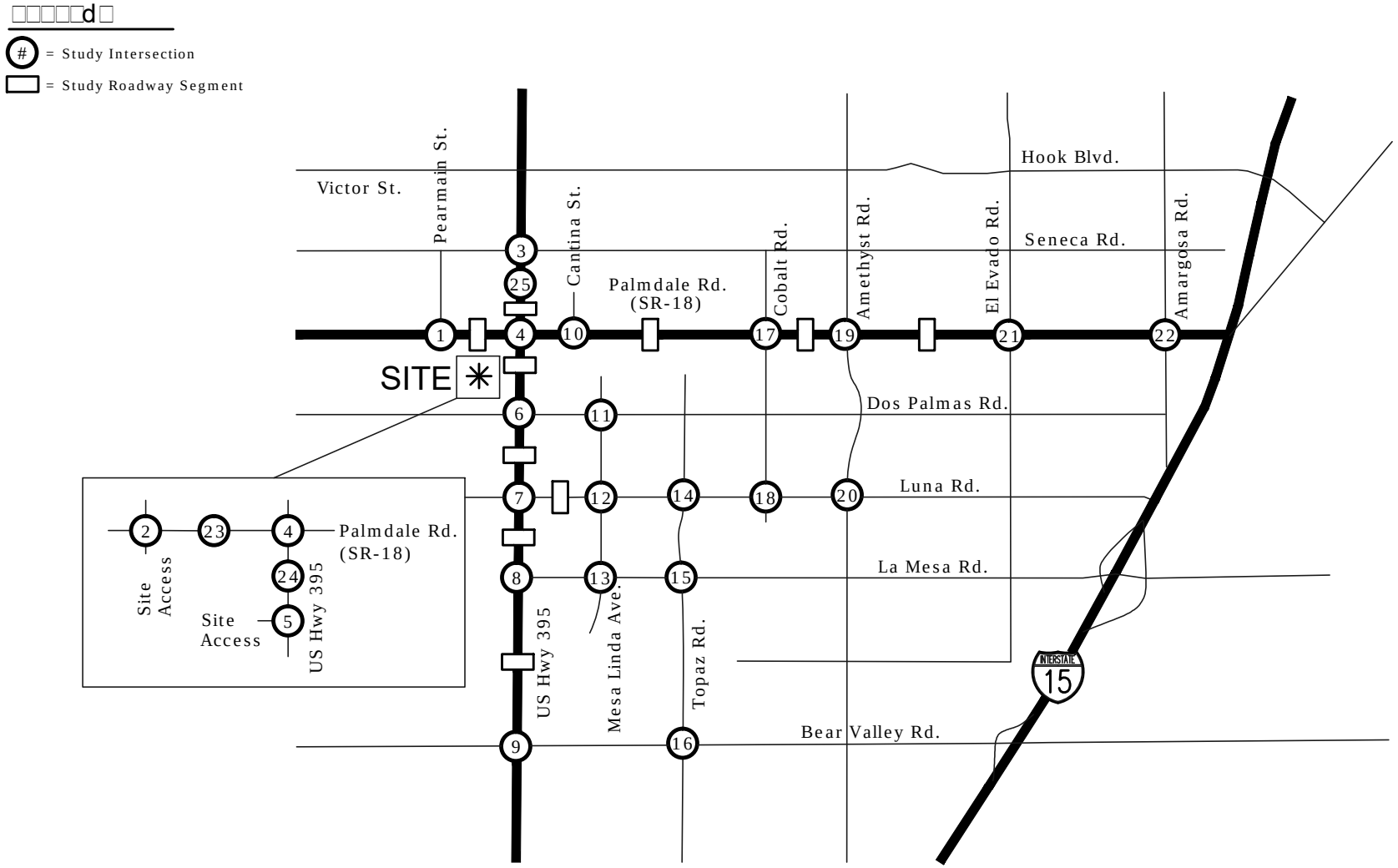
DESIGN BY: S.J.
DRAWN BY: S.J.
CHECKED BY: T.H.
DATE: 07/10/2019

SP-01
SHEET NO.
1 OF 1



CITY OF VICTORVILLE	SHEET NO. 1
CONCEPT STRIPING PLAN SWC US-395/PALMDALE RD (SR-18)	OF 1 SHTS
TJW ENG. FILE NUMBER: BPE-16-004	

Plot Date: 07/17/2019 12:43:53 PM User: ########## File Name: C:\Users\Jeffrey\Dropbox (TJW Engineering Inc.)\TJW Projects\BPE Projects\BPE-16-004\Conceptual Striping\BPE16004 Victorville Concept Striping D 20190717.dwg Last Update: 7/17/2019 12:43:01 PM

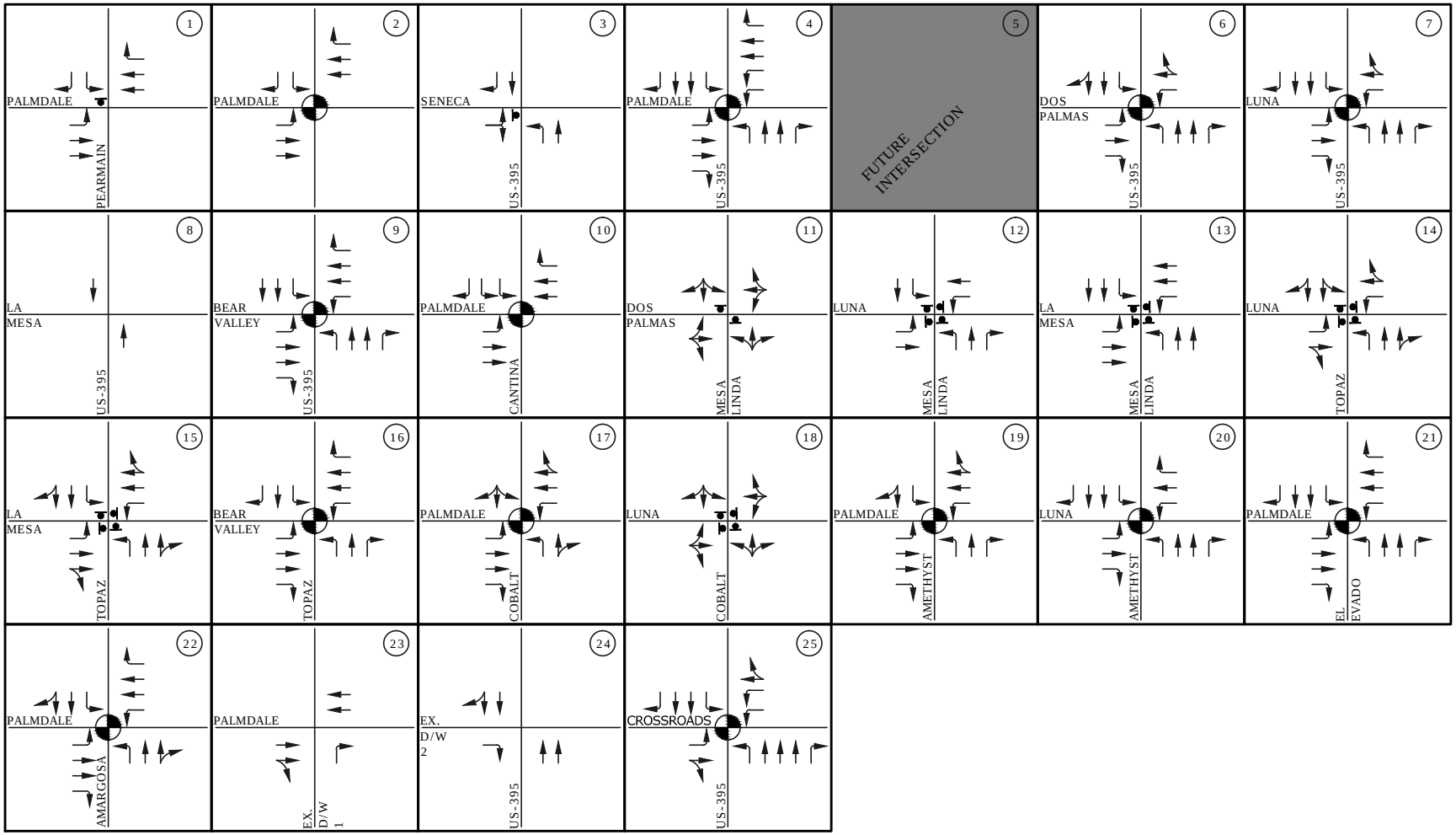


TJW ENGINEERING, INC.

Exhibit 2: Project Location and Study Area

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

N S



□□□□d□

= Traffic Signal

= Stop Sign

= Defacto Right Turn

TJW ENGINEERING, INC.

Exhibit 3A: Existing Intersection Lane Geometry and Controls

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

N□□□ S□□□

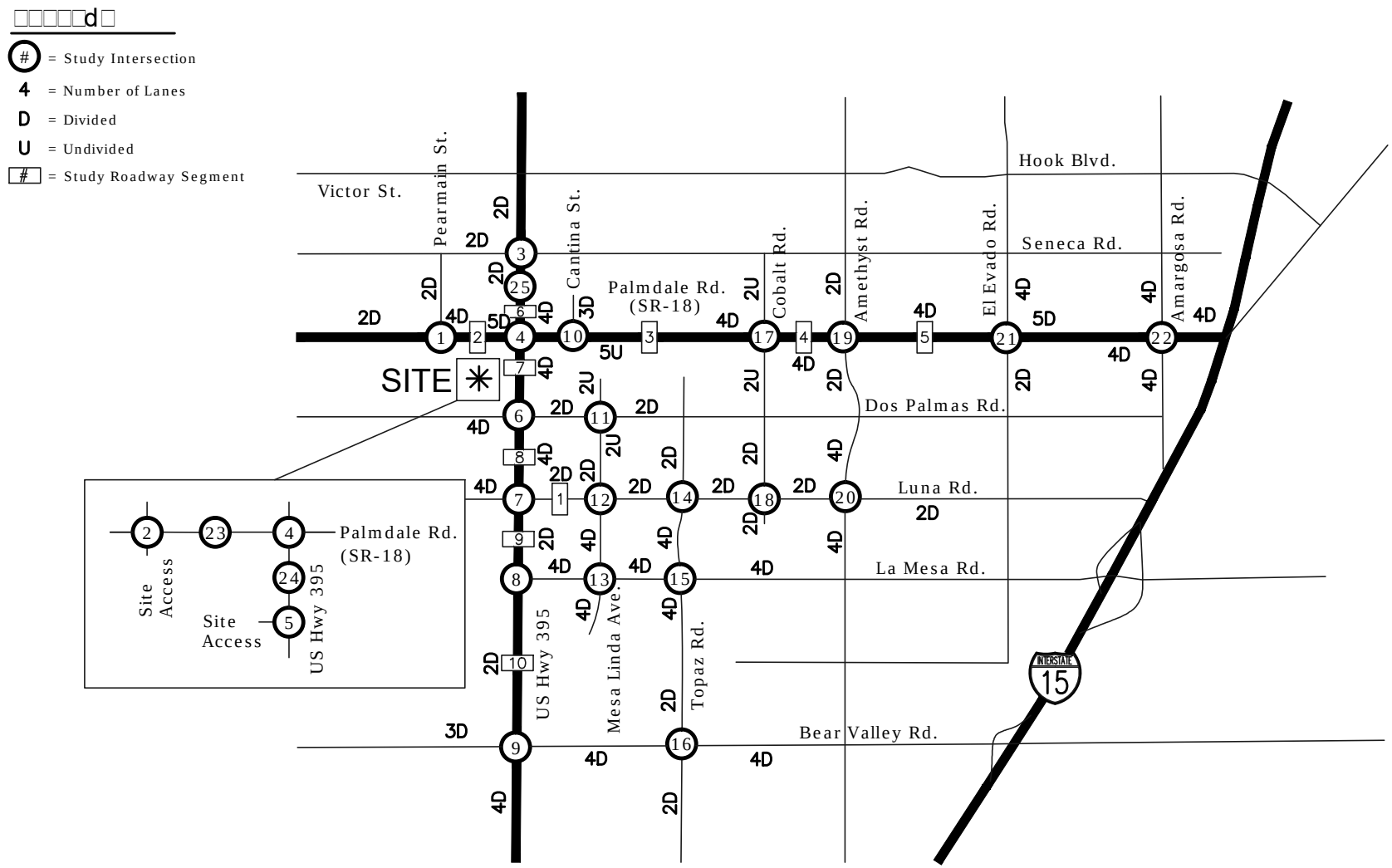


Exhibit 3B: Existing Roadway Segment Geometry

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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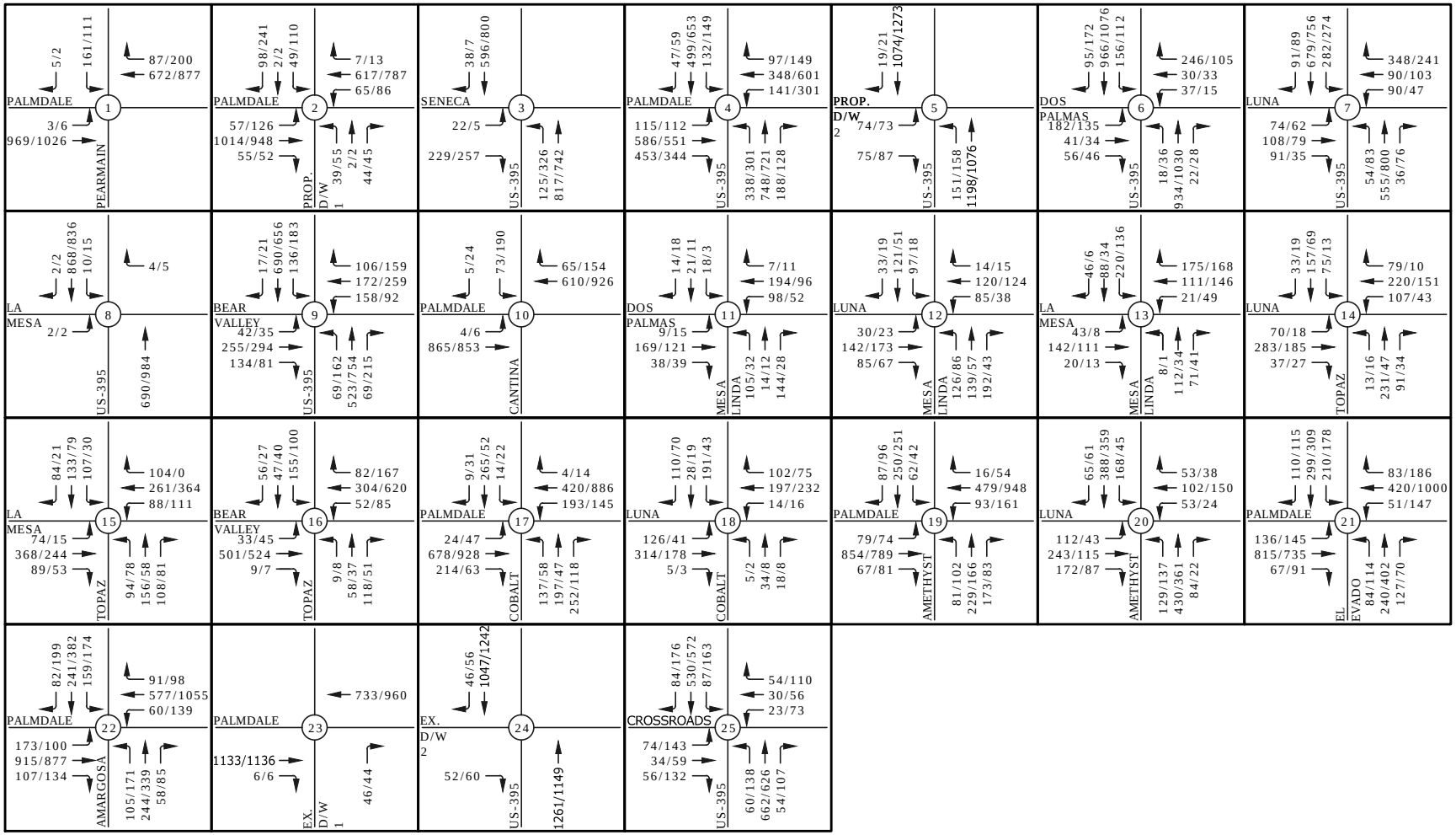


□□□□□d□

XX/XX = AM/PM Peak Hour Volumes

Exhibit 4: Existing AM/PM Peak Hour Intersection Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

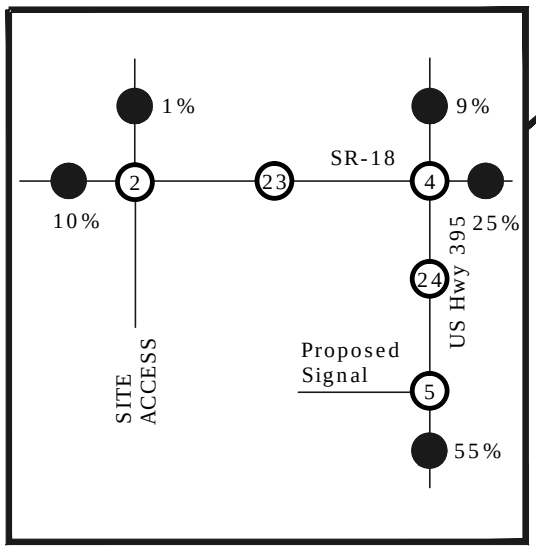
N□□□ S□□□

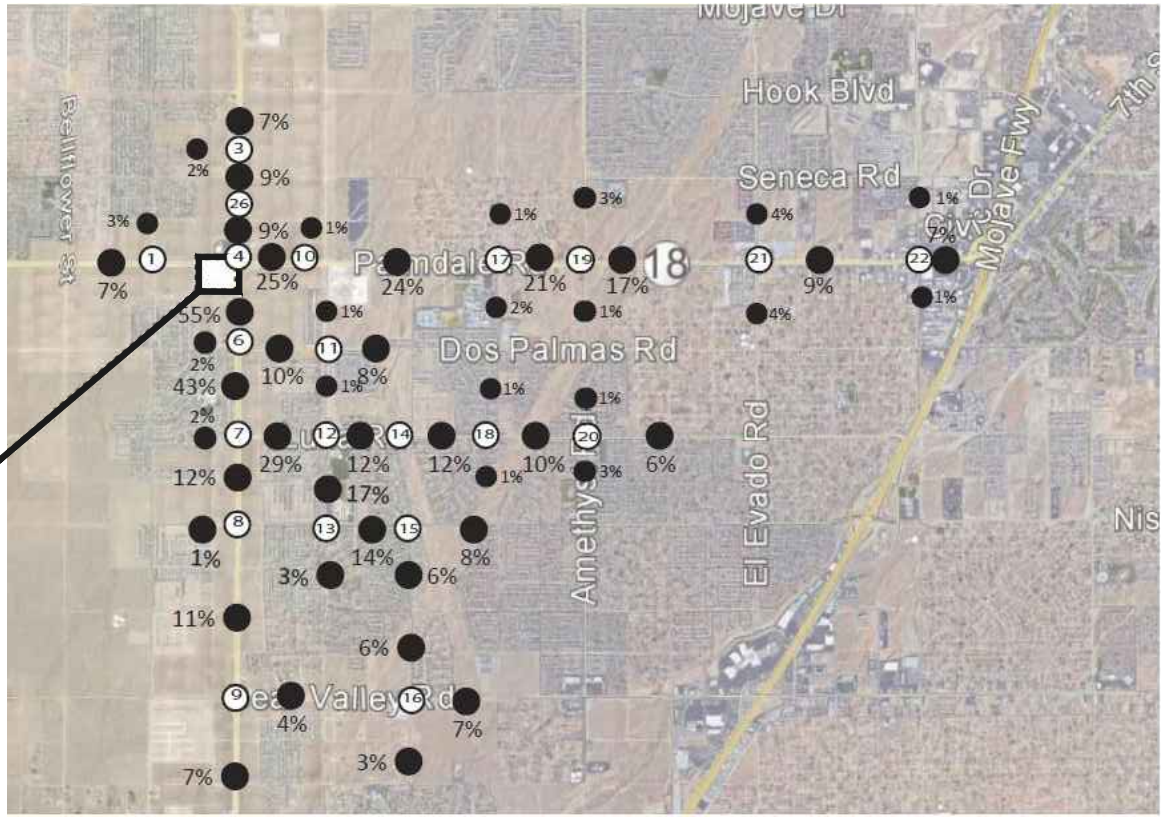
□□□□□d□

= Project Site

= Study Intersection

XX% = Percent Trip Distribution



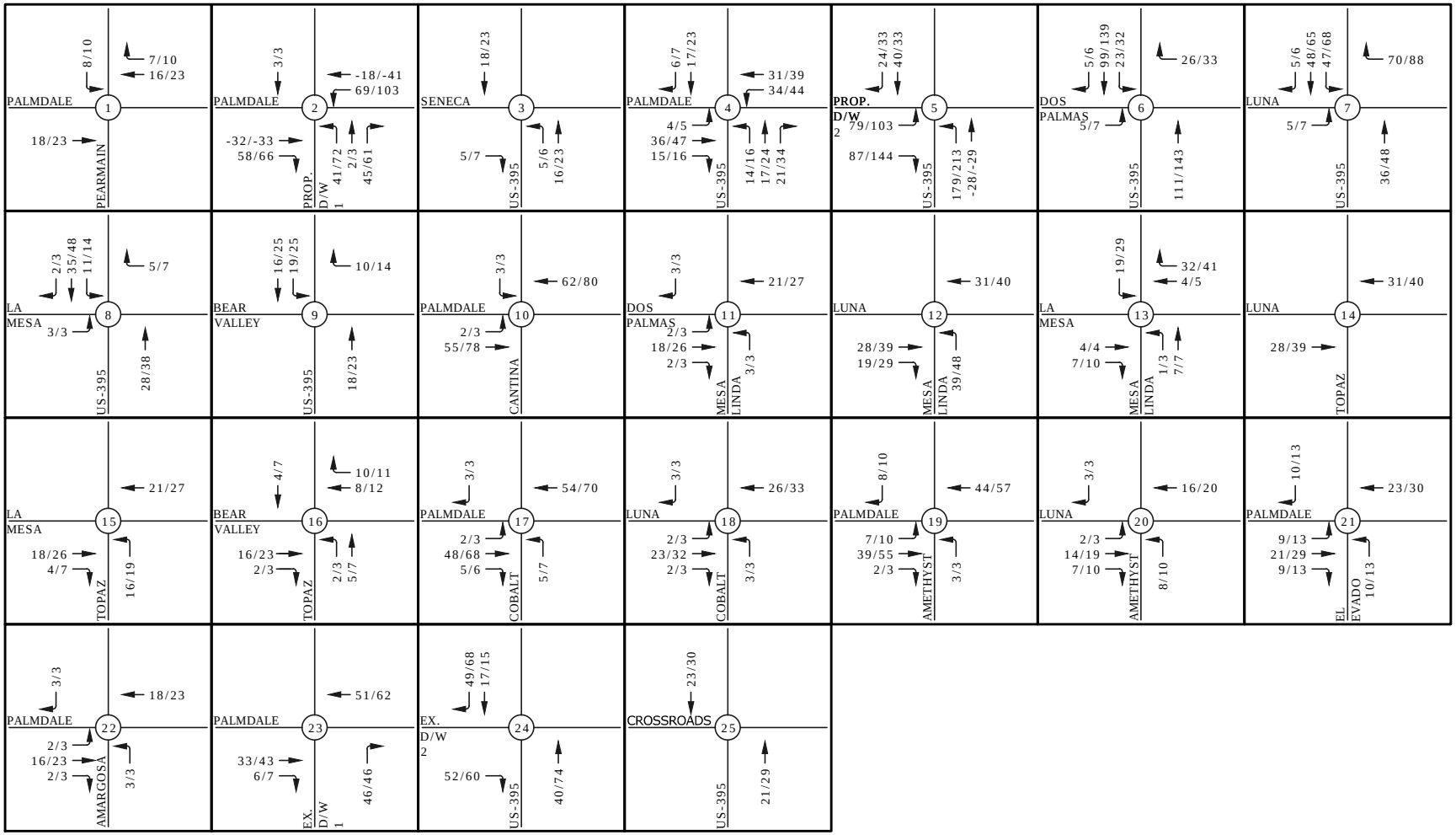


TJW ENGINEERING, INC.

Exhibit 5: Trip Distribution of Proposed Project Trips

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

N□□□ S□□□



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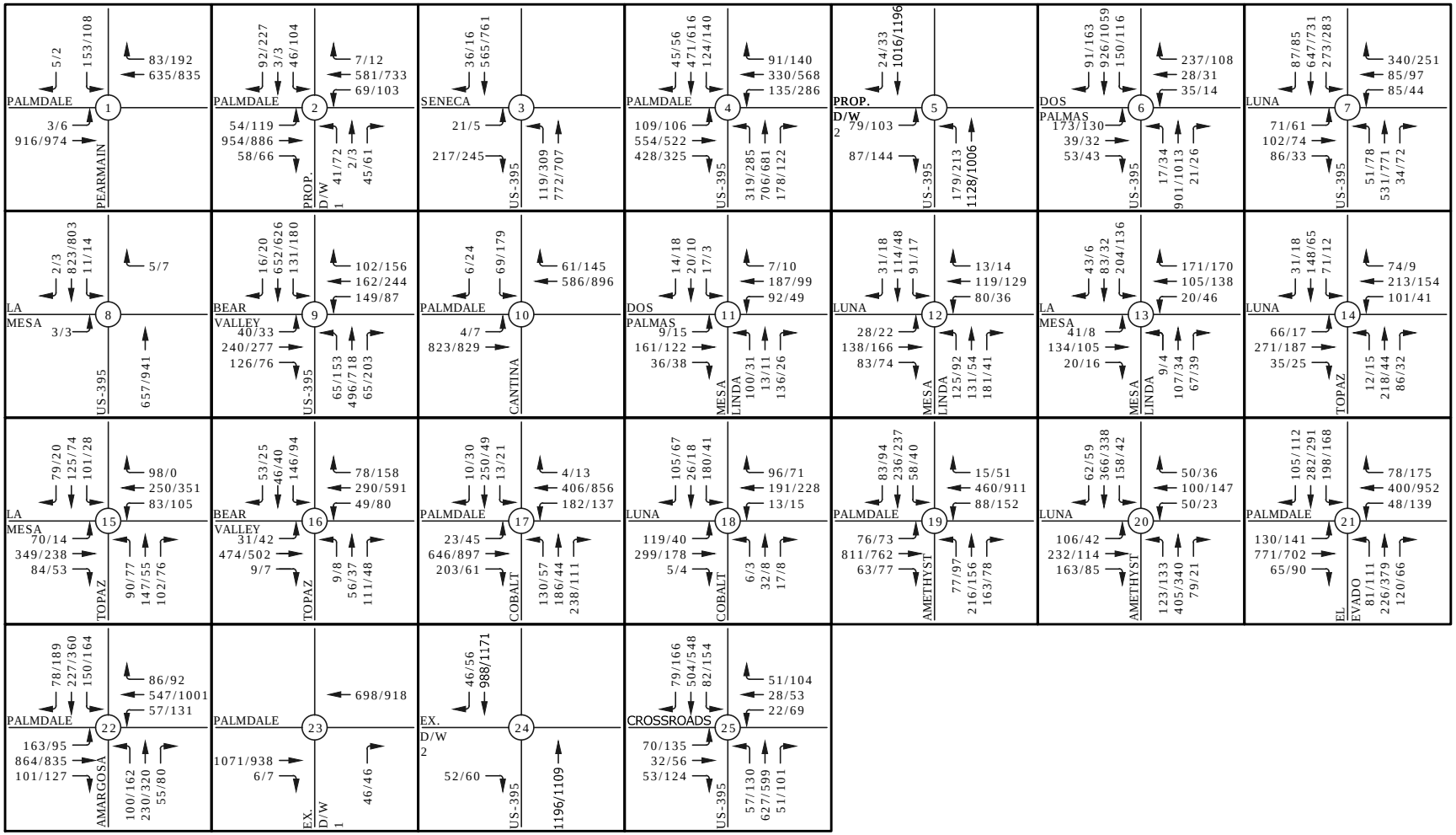
XX/XX = AM/PM Peak Hour Volumes

Exhibit 6: Proposed AM/PM Peak Hour Trip Assignment of Proposed Project

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N□□□ S□□□



□□□□□d□

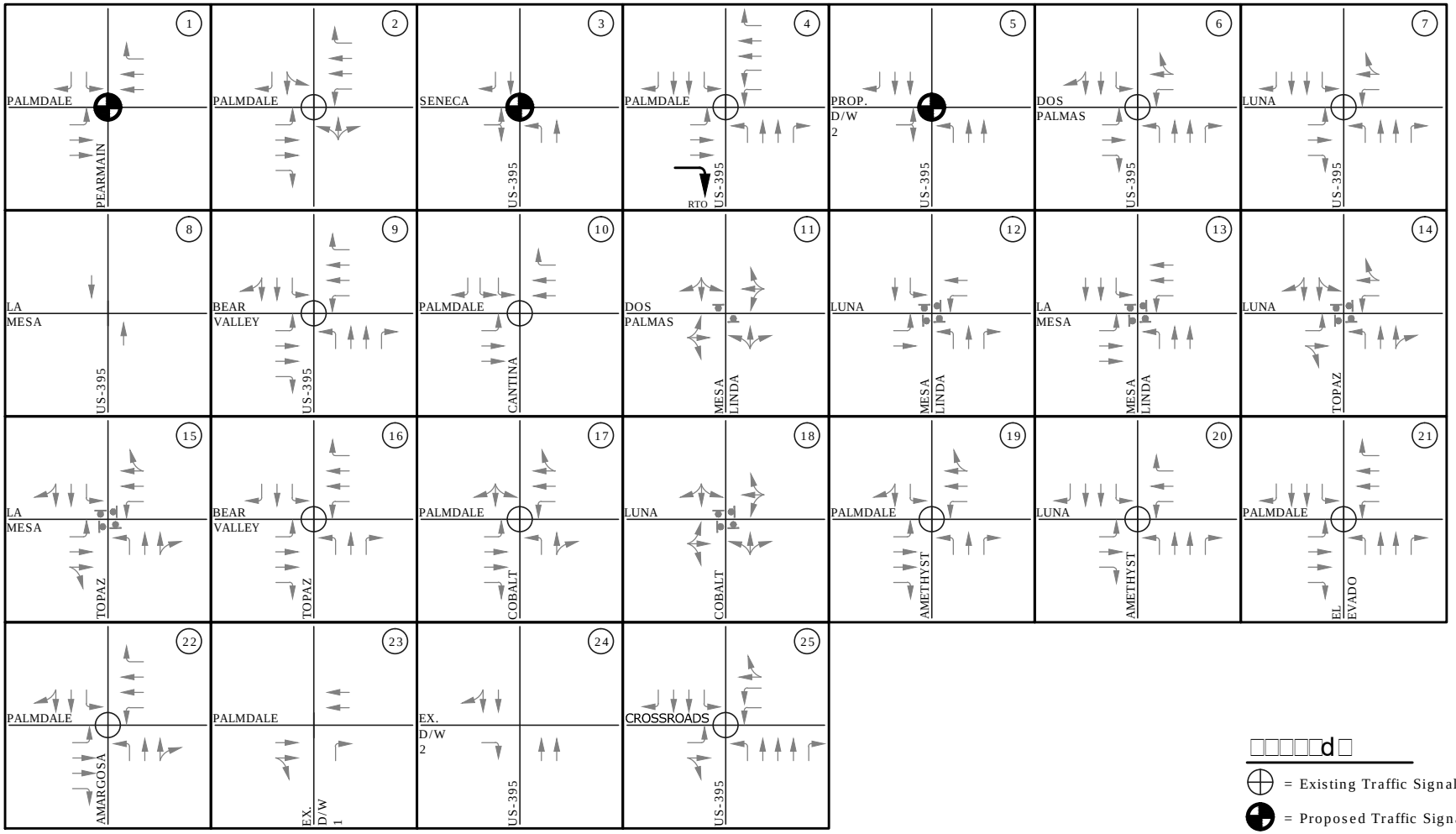
XX/XX = AM/PM Peak Hour Volumes

Exhibit 7: Existing Plus Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N□□□ S□□□



= Existing Traffic Signal

= Proposed Traffic Signal

= Stop Sign

RTO = Right Turn Overlap

Exhibit 8A: Existing Plus Project Intersection Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N S

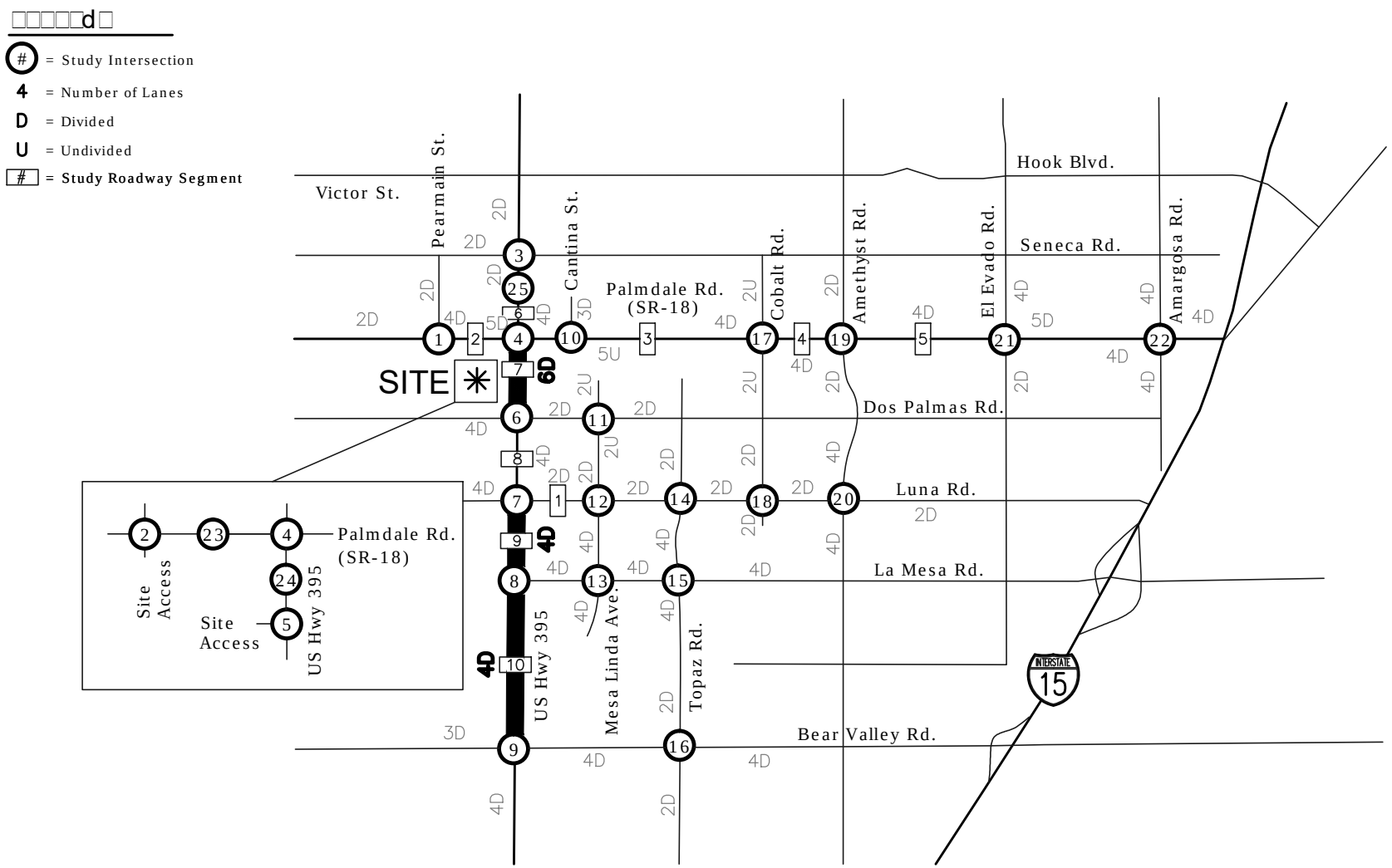


Exhibit 8B Existing Plus Project Roadway Segment Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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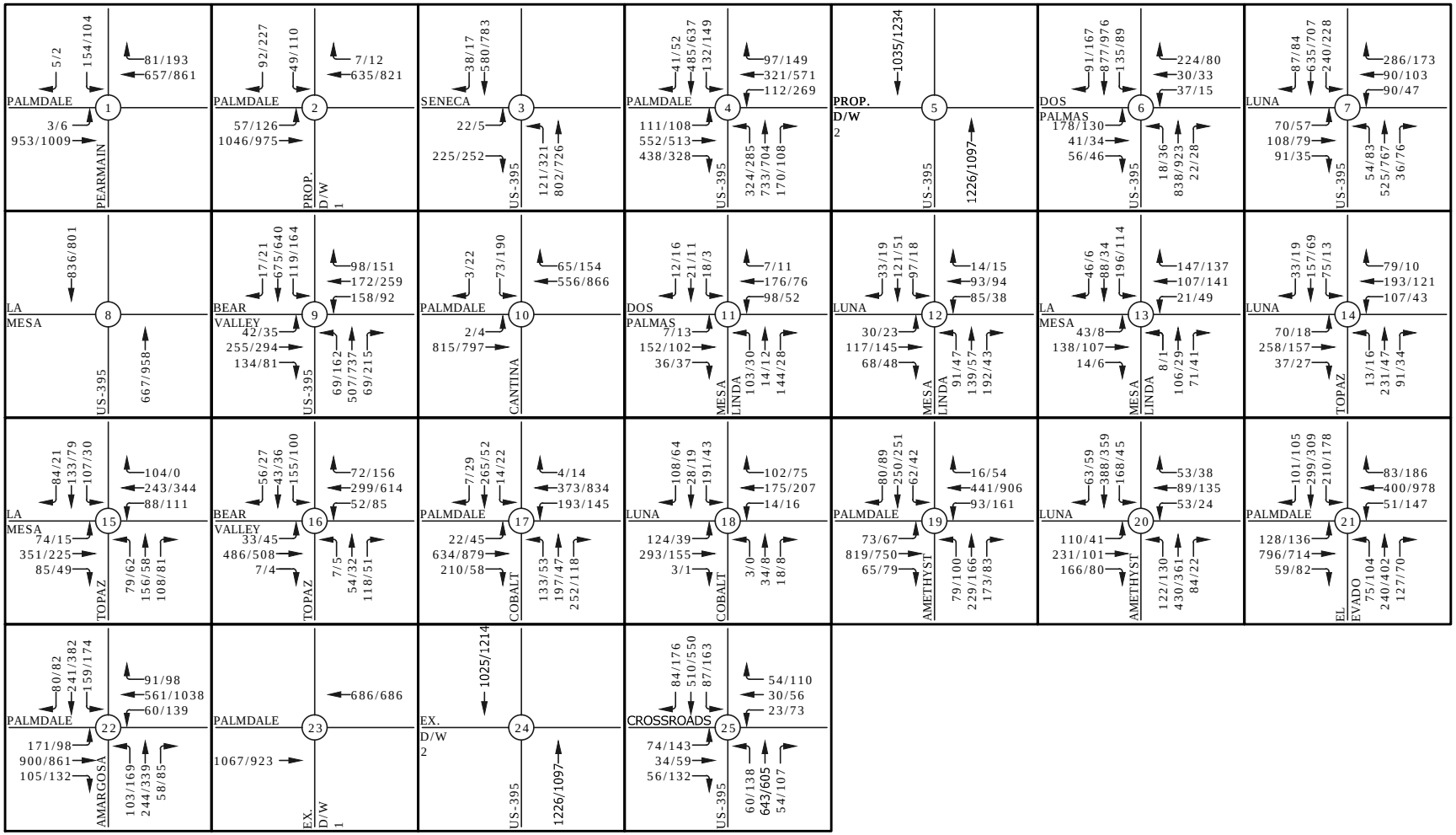
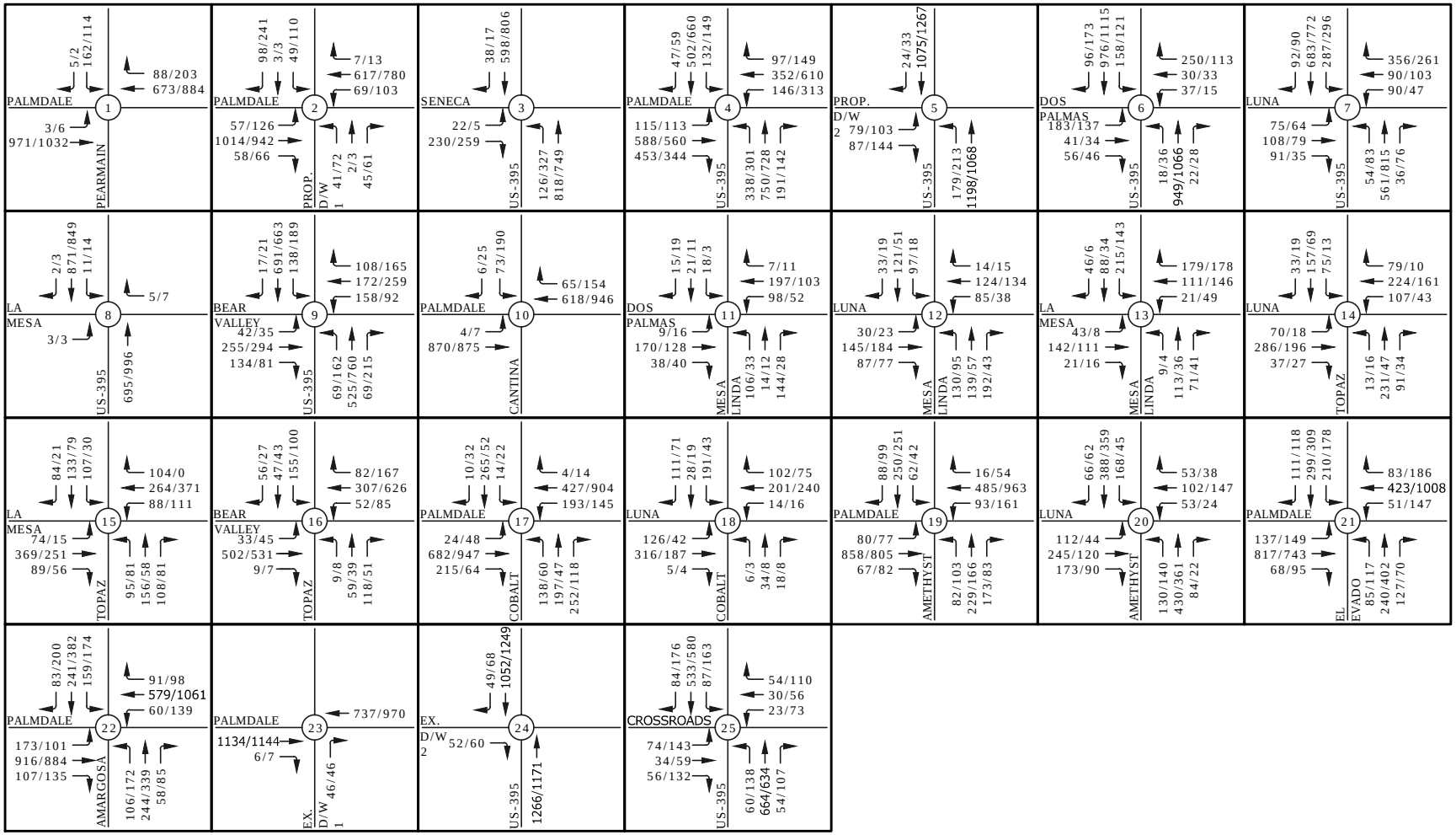


XX/XX = AM/PM Peak Hour Volumes

Exhibit 9: Opening Year Without Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.



□□□□□d□

XX/XX = AM/PM Peak Hour Volumes

Exhibit 10: Opening Year With Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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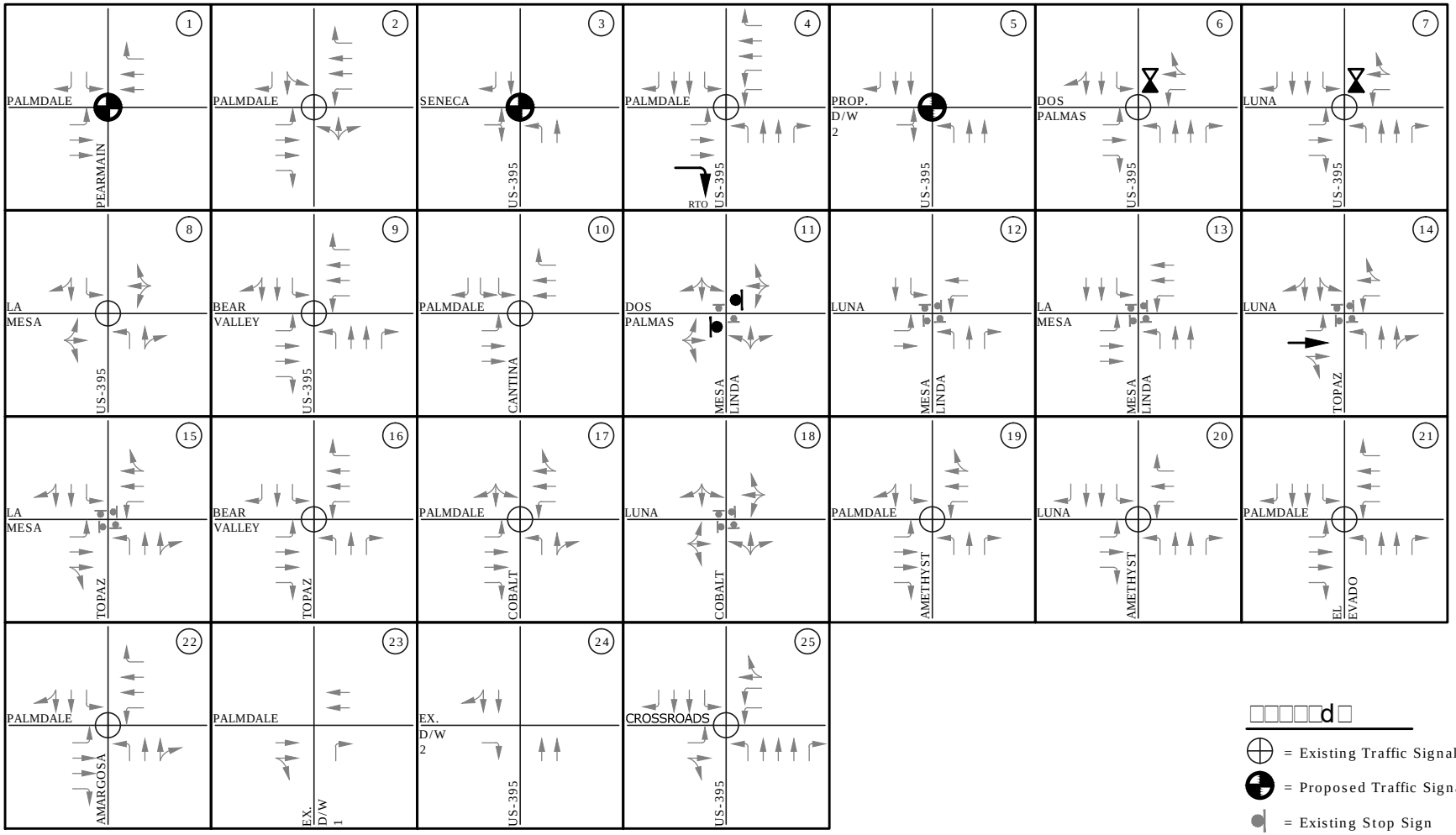

□□□□□d□

= Existing Traffic Signal

= Proposed Traffic Signal

= Existing Stop Sign

= Proposed Stop Sign

RTO = Right Turn Overlap

= Re-time Intersection

Exhibit 11A: OY Plus Project Intersection Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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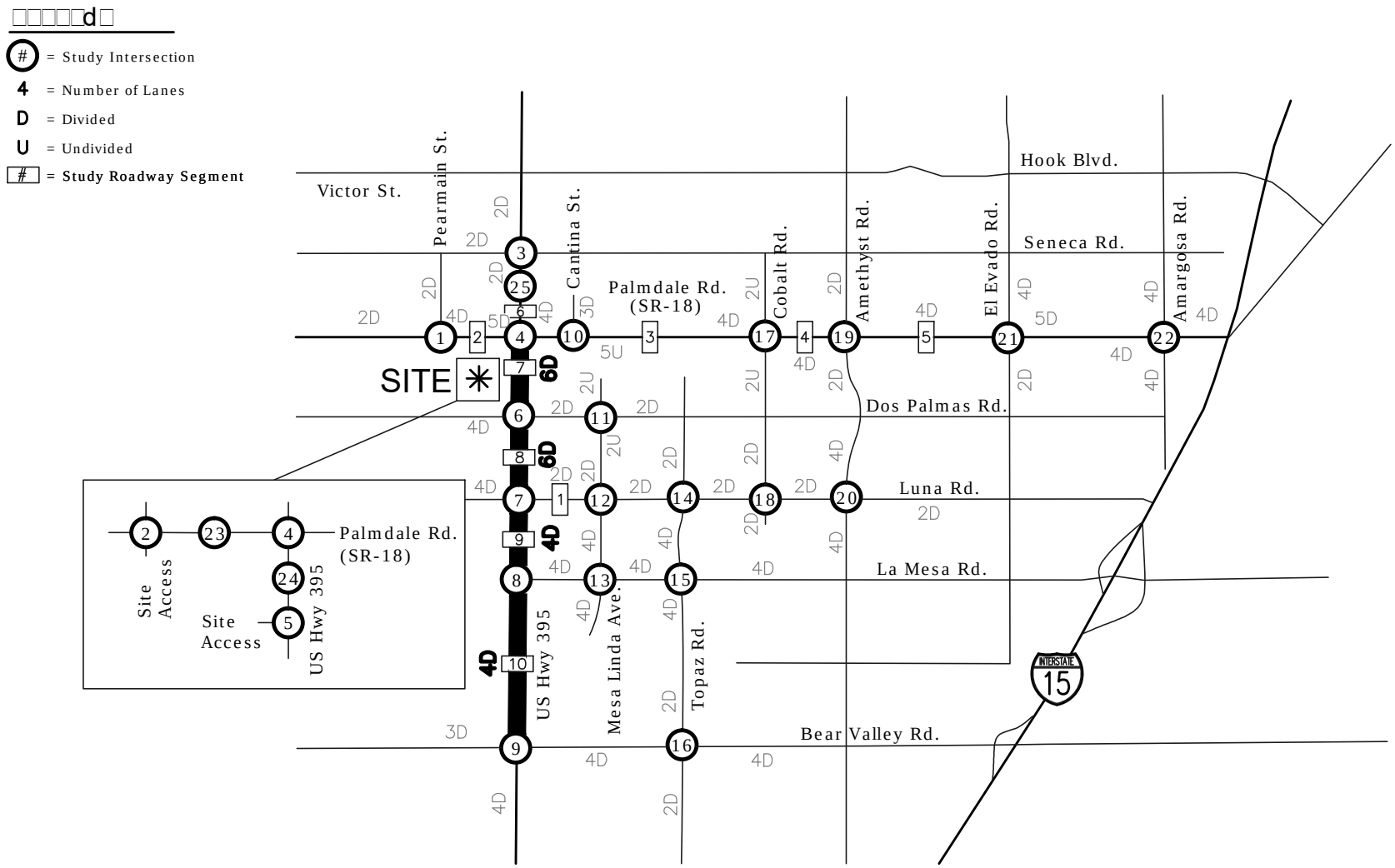

Exhibit 11B: OY Plus Project Roadway Segment Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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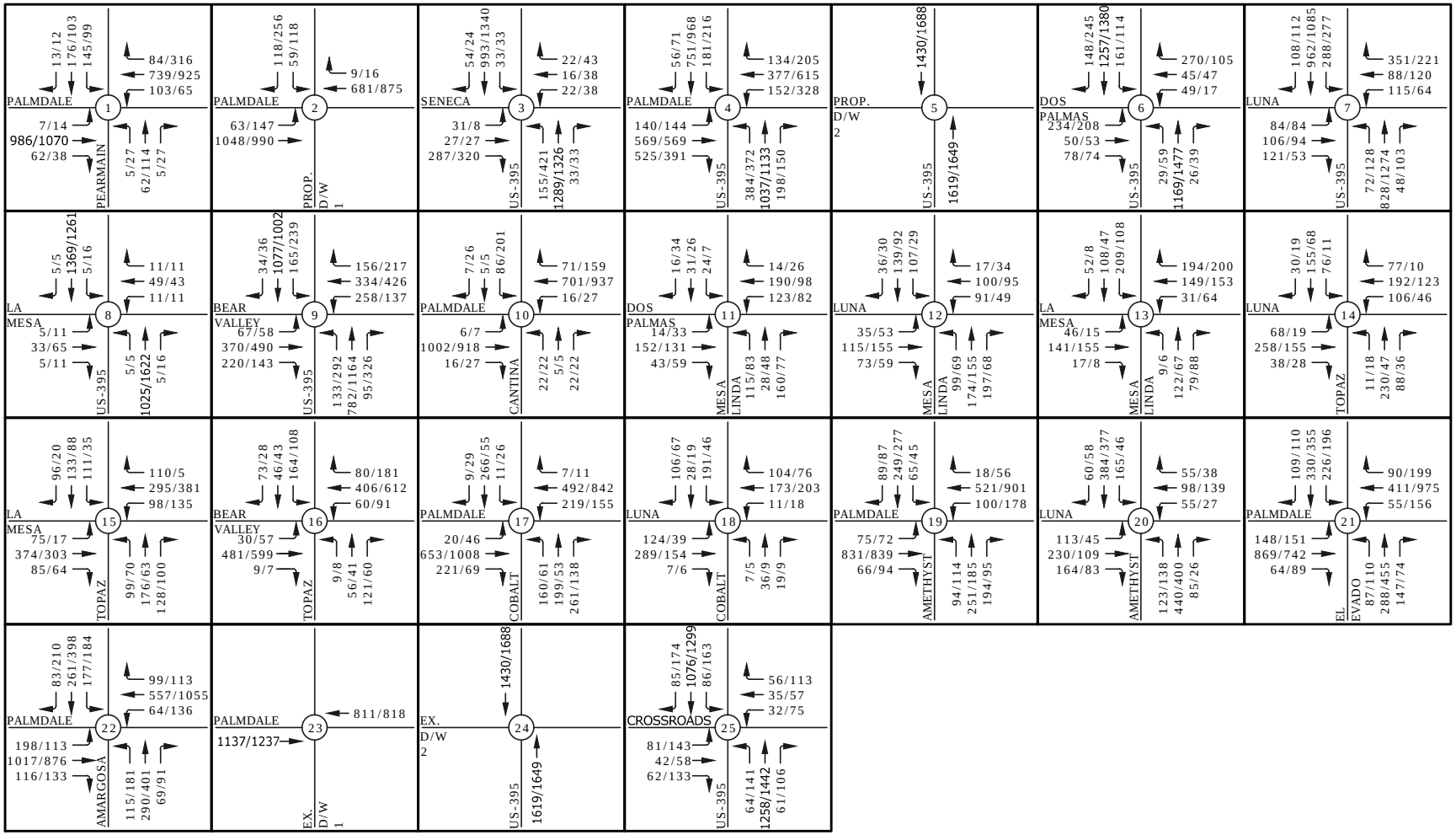


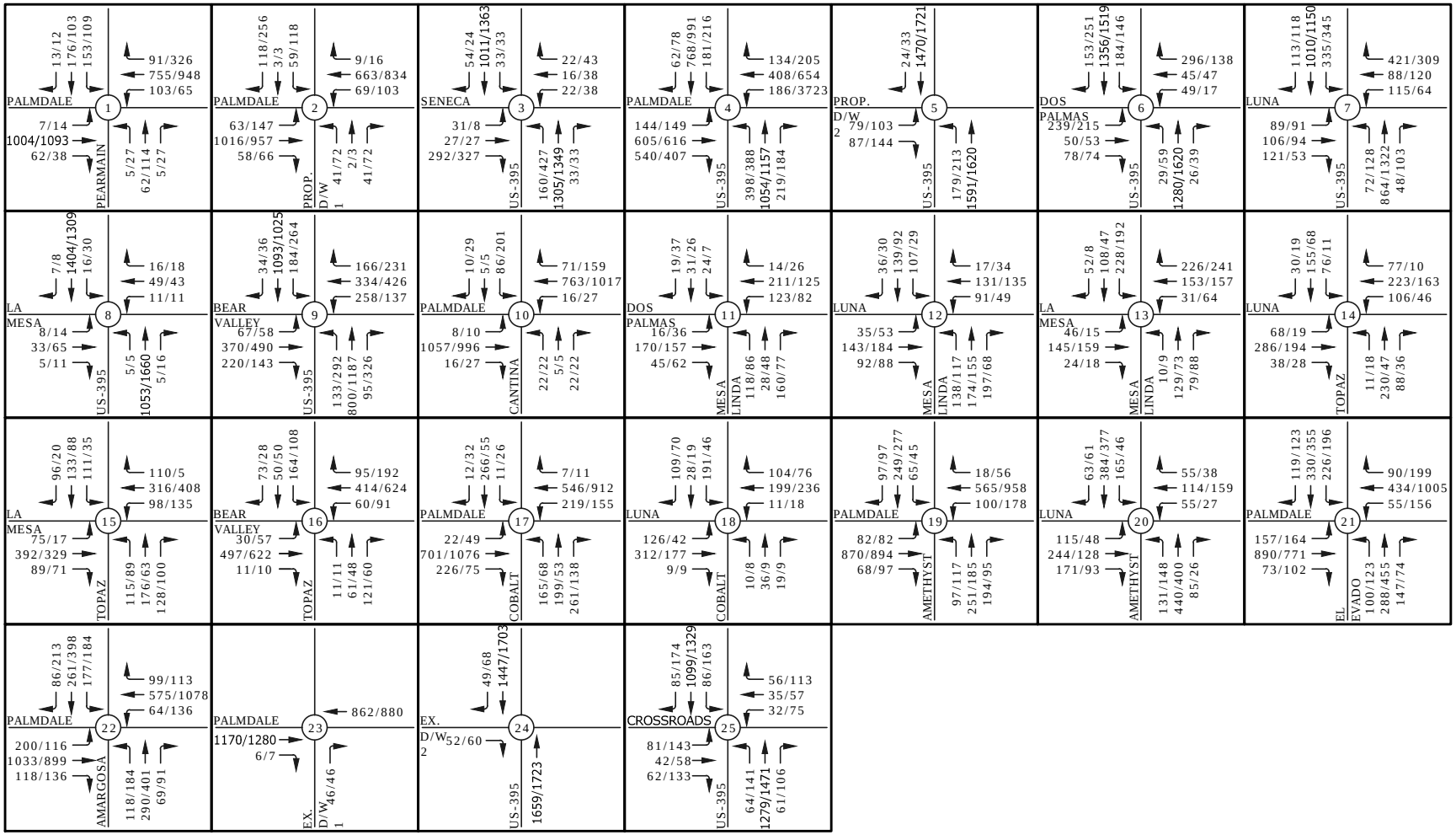
XX/XX = AM/PM Peak Hour Volumes

Exhibit 12: Interim Year Without Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N S

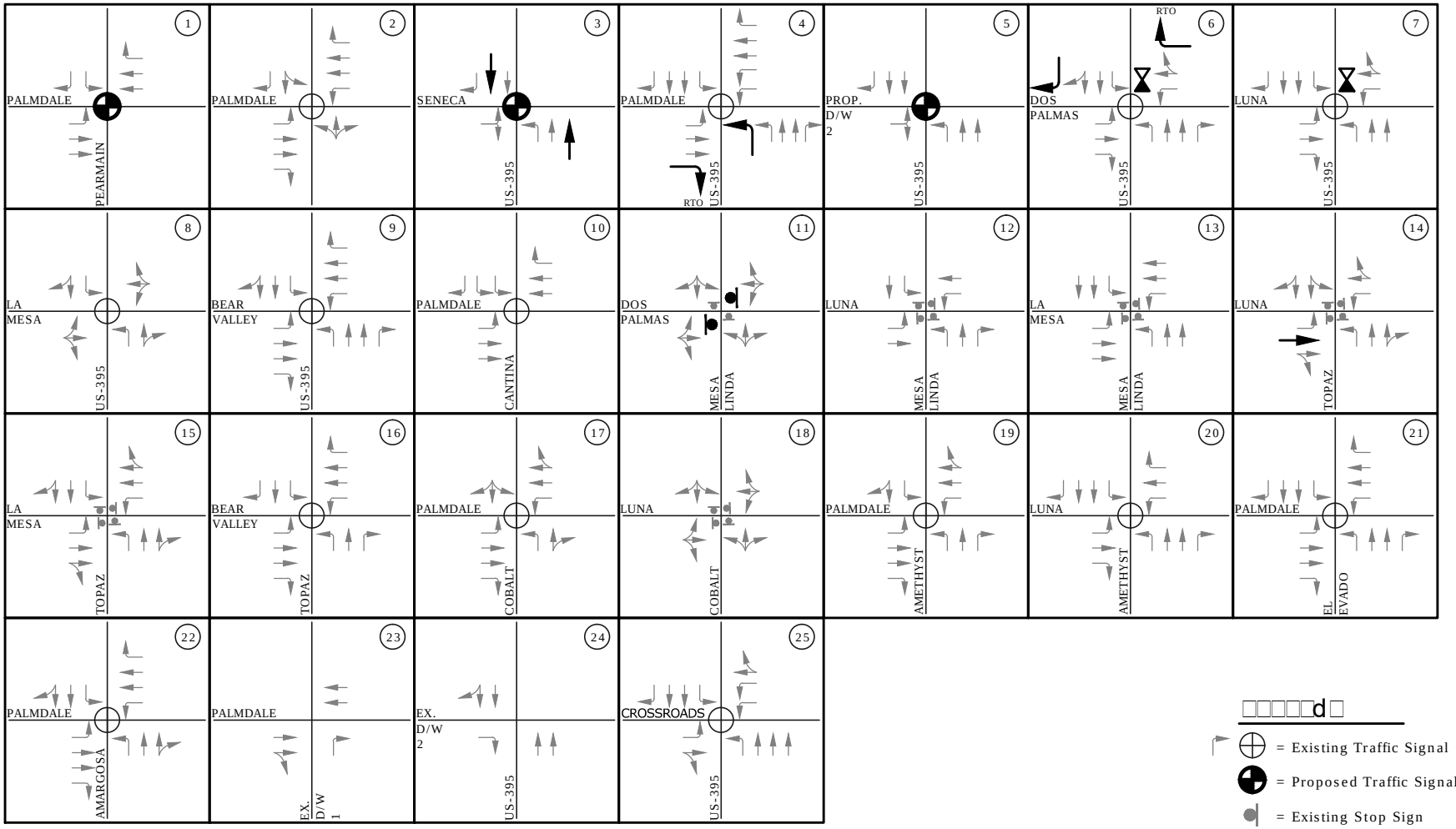


XX/XX = AM/PM Peak Hour Volumes

Exhibit 13: Interim Year With Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.



= Existing Traffic Signal

= Proposed Traffic Signal

= Existing Stop Sign

= Proposed Stop Sign

RTO = Right Turn Overlap

= Re-time Intersection

Exhibit 14A: IY Plus Project Intersection Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N S

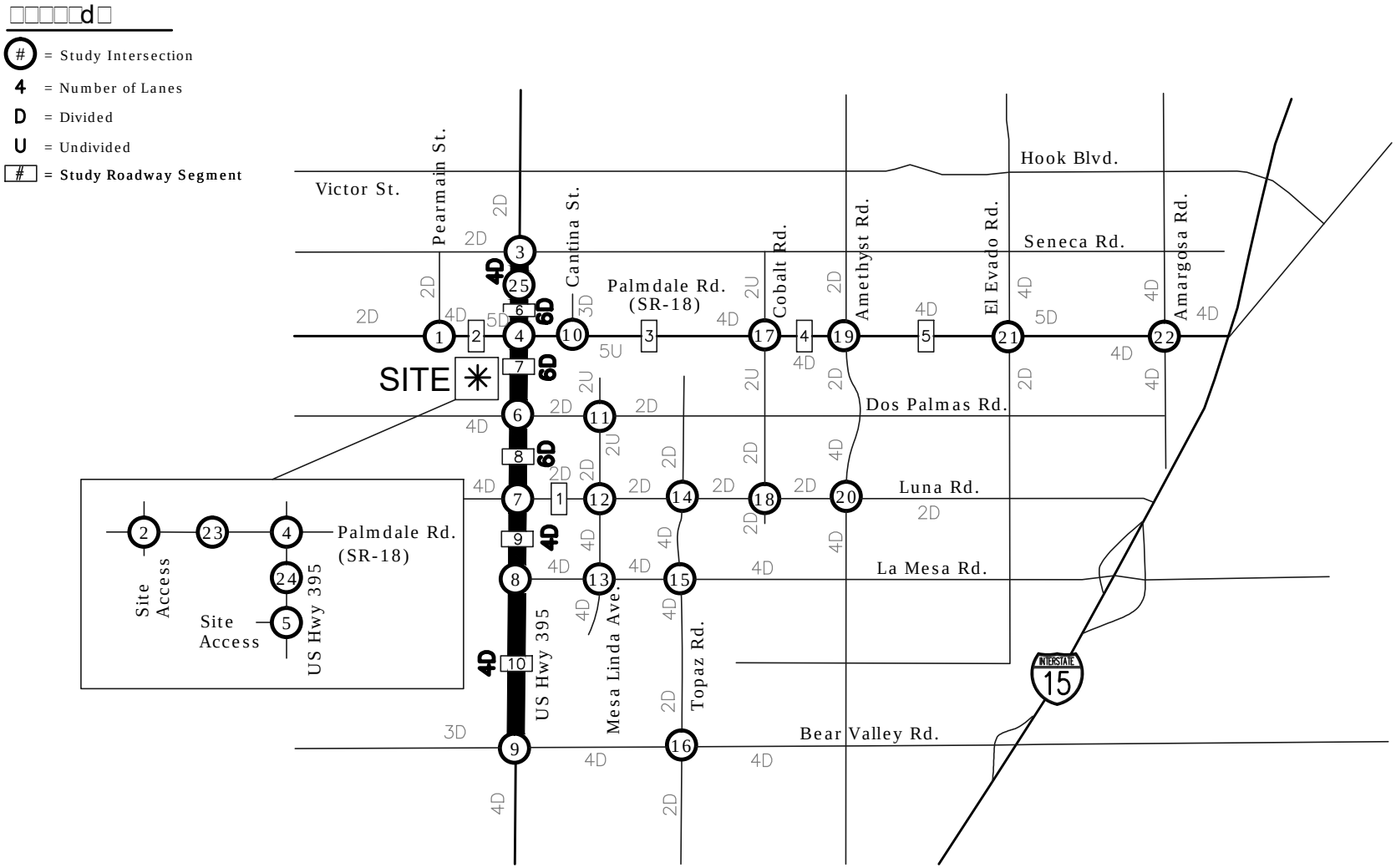


Exhibit 14B: IY Plus Project Roadway Segment Geometry With Recommended Imrpovements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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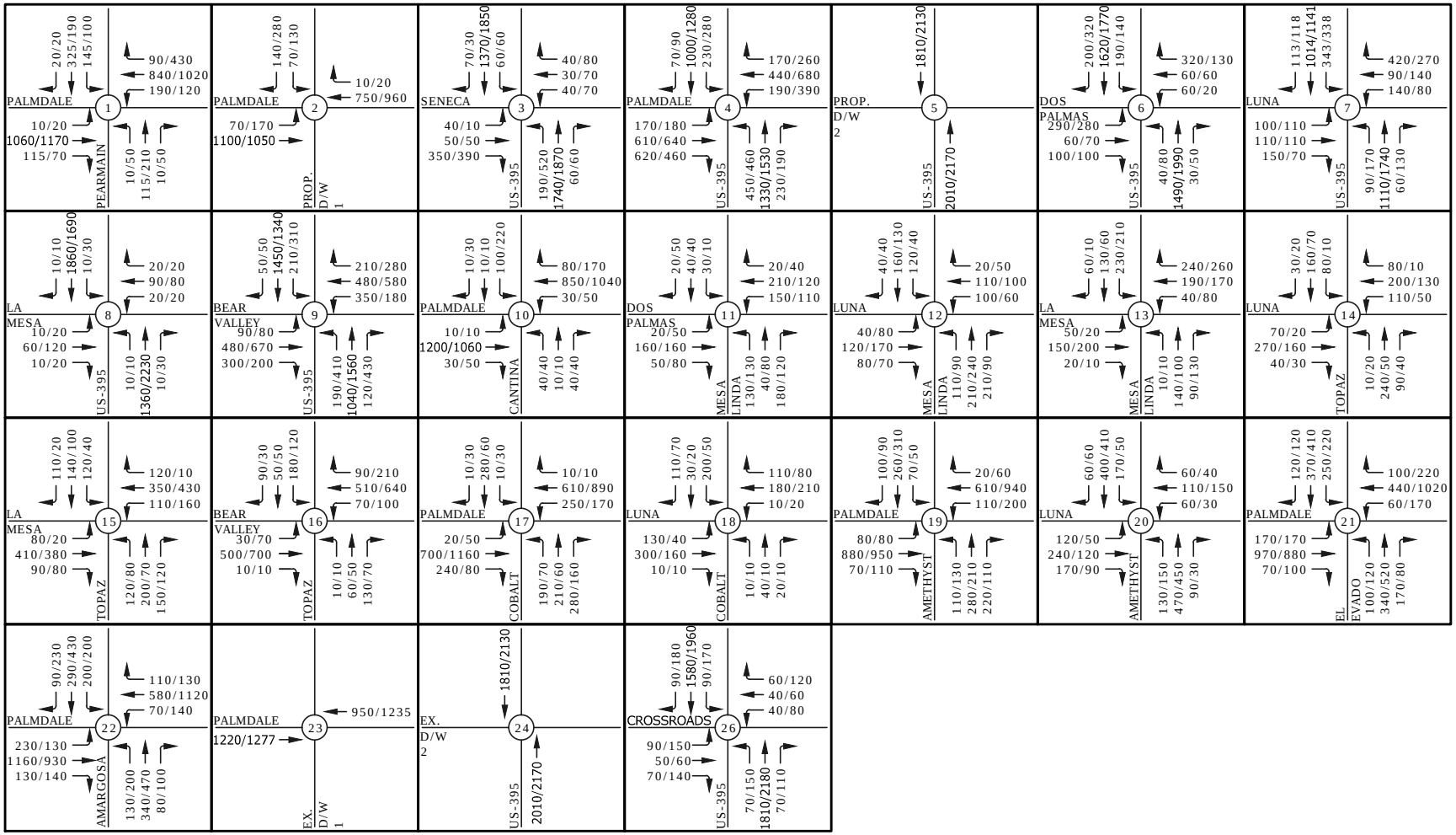


□□□□□d□

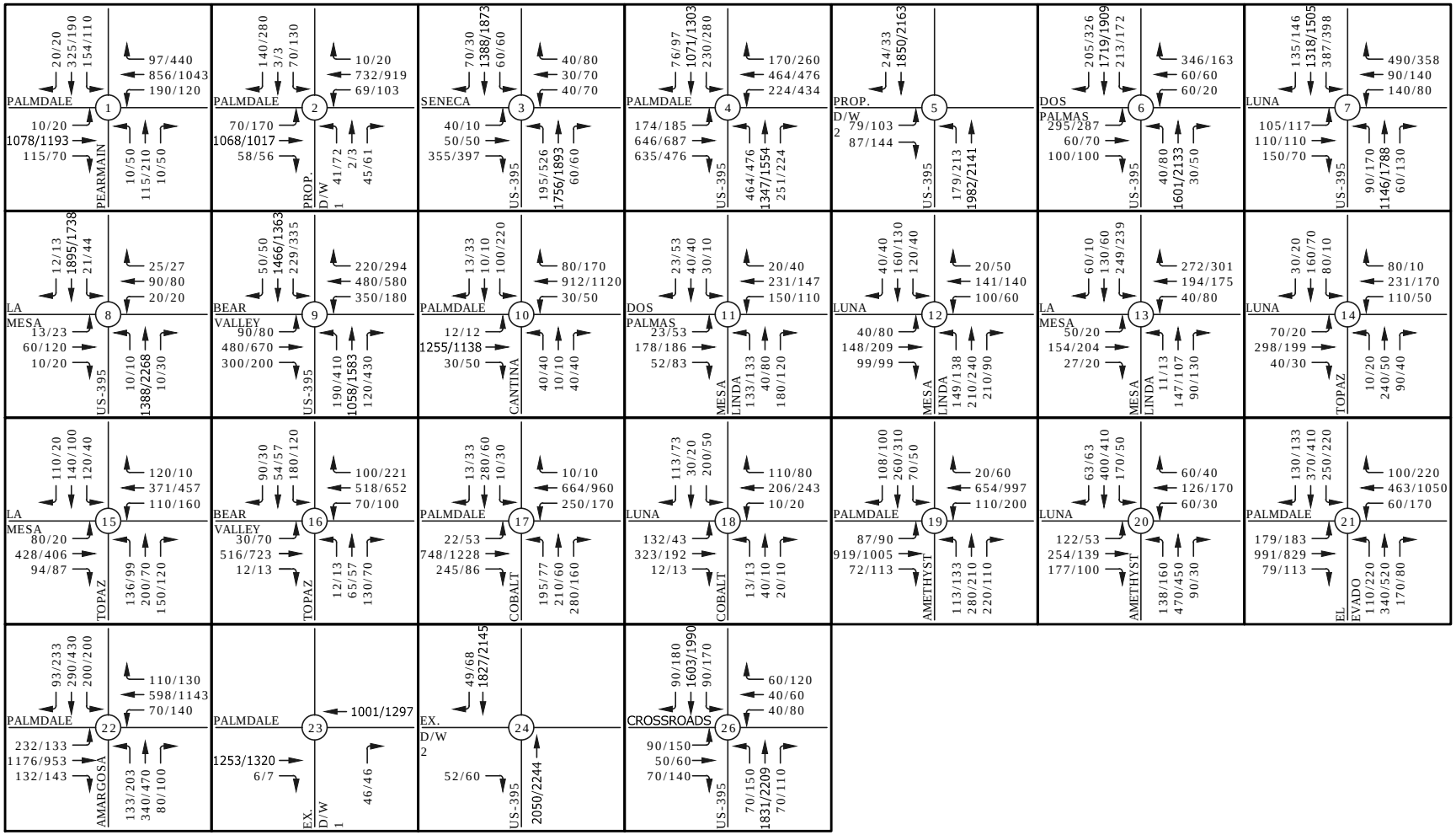
XX/XX = AM/PM Peak Hour Volumes

Exhibit 15: General Plan Without Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

N□□□ S□□□

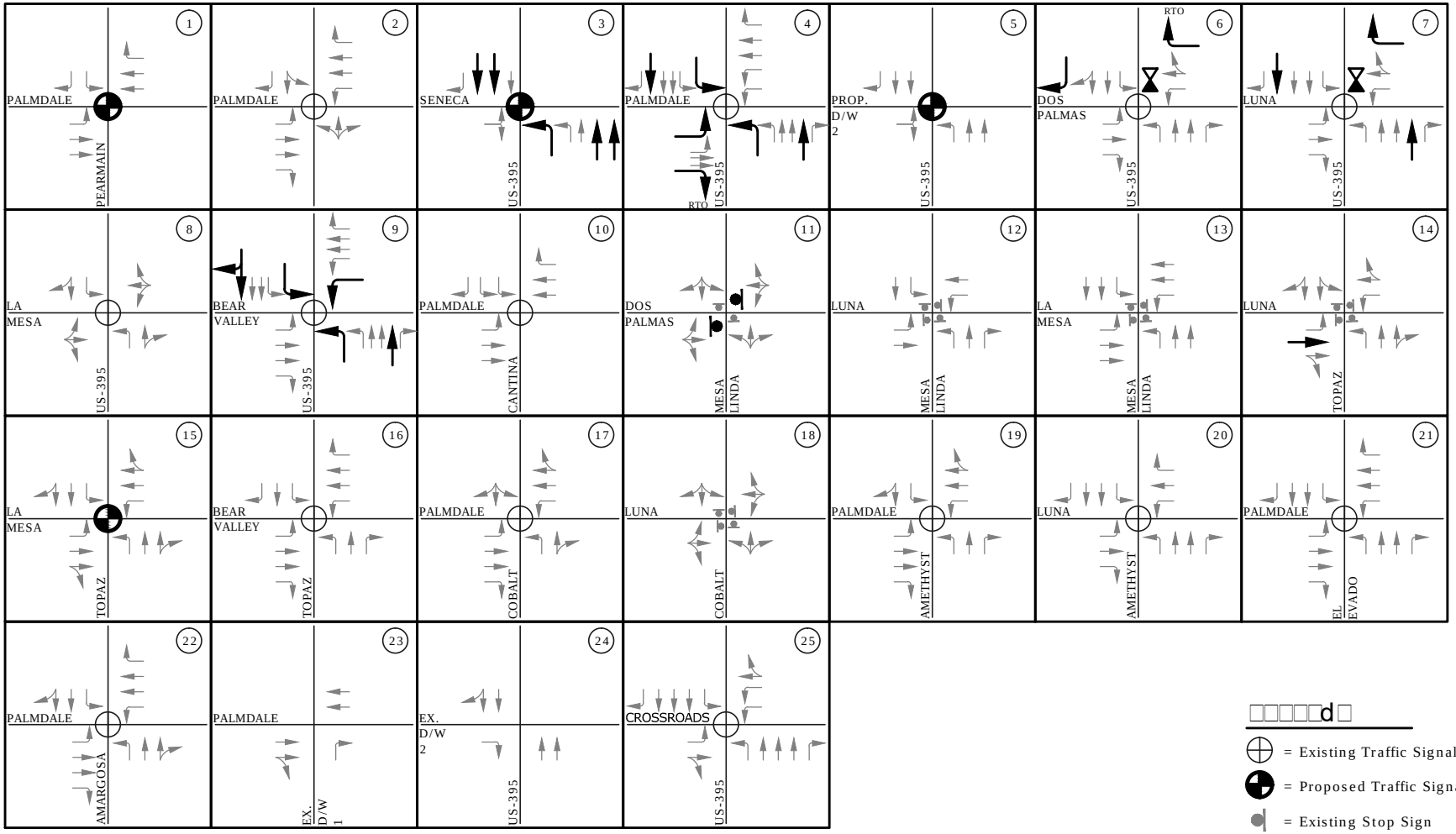


XX/XX = AM/PM Peak Hour Volumes

Exhibit 16: General Plan With Project Traffic Volumes

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.



□□□□□d□

= Existing Traffic Signal

= Proposed Traffic Signal

= Existing Stop Sign

= Proposed Stop Sign

RTO = Right Turn Overlap

= Re-time Intersection

Exhibit 17A: GP Plus Project Intersection Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

TJW ENGINEERING, INC.

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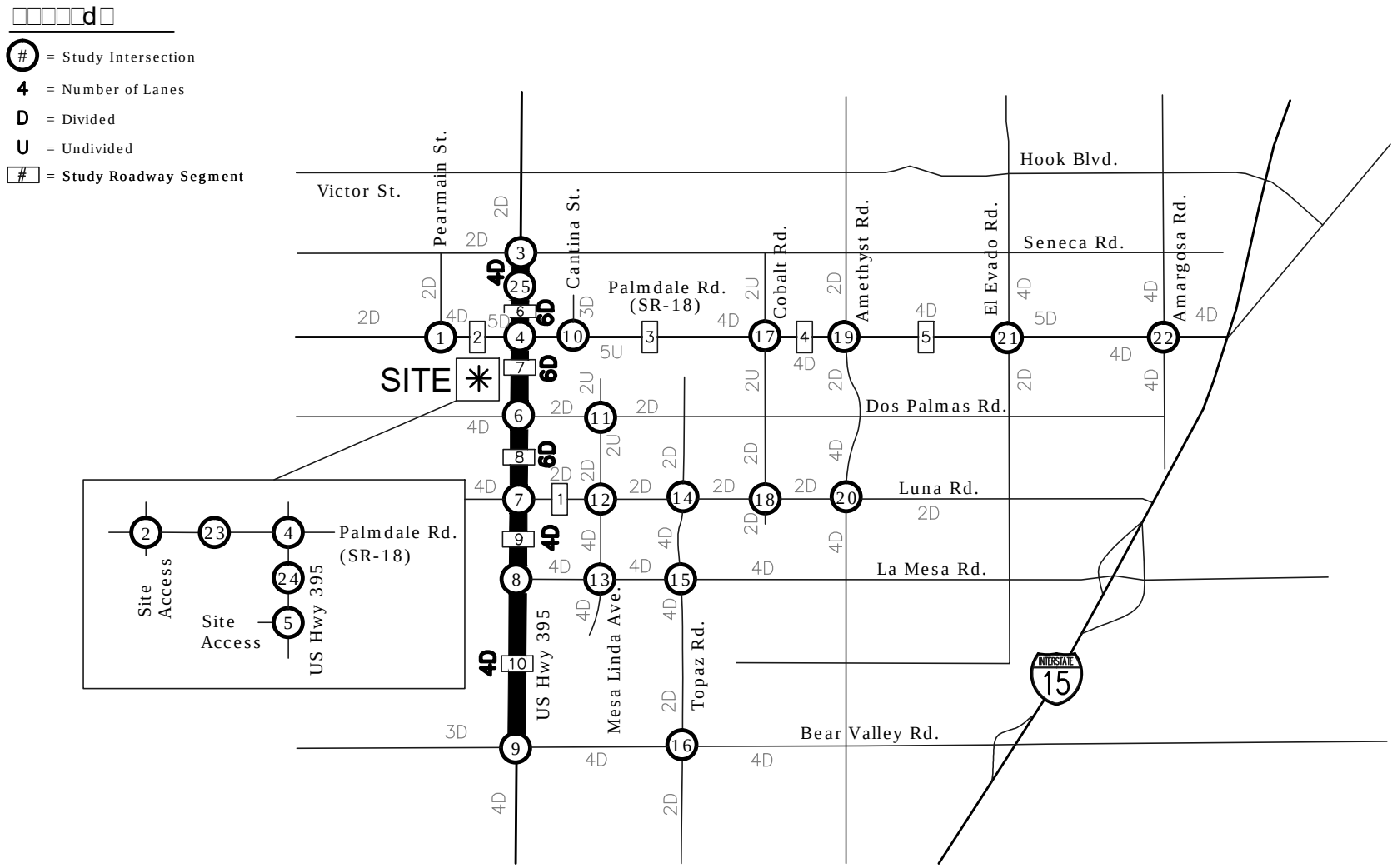


Exhibit 17B: GP Plus Project Roadway Segment Geometry With Recommended Improvements

BPE-16-004 SWC US395/Palmdale (SR-18) TIA

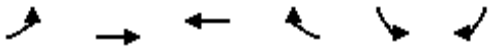
TJW ENGINEERING, INC.

N□□□ S□□□

REVISED QUEUEING ANALYSIS

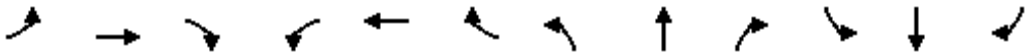
Desert Grove – Queue Output Sheets

Existing Conditions Queue Output Sheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	60	1096	666	8	51	102
v/c Ratio	0.15	0.43	0.30	0.01	0.13	0.22
Control Delay	16.9	4.3	8.0	0.0	16.6	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	4.3	8.0	0.0	16.6	6.0
Queue Length 50th (ft)	9	58	30	0	8	0
Queue Length 95th (ft)	43	107	117	0	37	29
Internal Link Dist (ft)		796	178			
Turn Bay Length (ft)	175			375	125	125
Base Capacity (vph)	535	3080	2562	1172	787	800
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.36	0.26	0.01	0.06	0.13

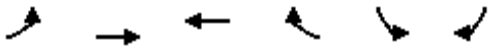
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	571	454	116	333	100	335	759	176	136	502	43
v/c Ratio	0.48	0.73	0.67	0.59	0.66	0.29	0.74	0.56	0.26	0.67	0.60	0.09
Control Delay	51.8	45.1	9.7	64.9	51.4	5.0	47.4	28.5	8.2	62.8	41.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	45.1	9.7	64.9	51.4	5.0	47.4	28.5	8.2	62.8	41.4	0.4
Queue Length 50th (ft)	75	197	12	42	119	0	215	217	17	93	167	0
Queue Length 95th (ft)	146	268	109	#84	172	23	343	317	70	167	248	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	243	987	746	199	771	449	517	1357	688	269	833	474
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.58	0.61	0.58	0.43	0.22	0.65	0.56	0.26	0.51	0.60	0.09

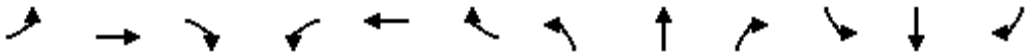
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	121	938	790	12	106	232
v/c Ratio	0.34	0.40	0.48	0.02	0.30	0.45
Control Delay	22.8	5.0	13.8	0.0	21.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	5.0	13.8	0.0	21.4	6.7
Queue Length 50th (ft)	30	55	95	0	27	0
Queue Length 95th (ft)	81	107	168	0	68	47
Internal Link Dist (ft)		796	178			
Turn Bay Length (ft)	175			375	125	125
Base Capacity (vph)	486	2612	1814	861	672	770
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.36	0.44	0.01	0.16	0.30

Intersection Summary



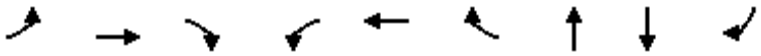
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	105	499	319	262	555	144	277	685	105	144	619	51
v/c Ratio	0.68	0.71	0.56	0.77	0.72	0.30	0.99	0.60	0.17	0.73	0.64	0.09
Control Delay	63.7	38.1	7.8	54.2	36.6	3.7	88.9	27.2	0.8	60.3	31.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	38.1	7.8	54.2	36.6	3.7	88.9	27.2	0.8	60.3	31.3	0.3
Queue Length 50th (ft)	57	135	0	74	151	0	~158	170	0	79	161	0
Queue Length 95th (ft)	#160	188	66	#134	197	26	#321	233	4	#168	223	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	154	809	604	349	963	561	281	1145	632	209	963	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.62	0.53	0.75	0.58	0.26	0.99	0.60	0.17	0.69	0.64	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Existing Plus Project Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	60	1060	64	77	646	8	98	54	102
v/c Ratio	0.31	0.76	0.09	0.43	0.46	0.01	0.20	no cap	0.18
Control Delay	41.1	24.4	0.3	48.4	18.5	0.0	12.4		5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	41.1	24.4	0.3	48.4	18.5	0.0	12.4	Error	5.6
Queue Length 50th (ft)	30	252	0	40	136	0	16	~60	0
Queue Length 95th (ft)	72	327	2	#108	188	0	54	#140	33
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	256	1917	912	185	1848	883	650	1	782
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.55	0.07	0.42	0.35	0.01	0.15	54.00	0.13

Intersection Summary

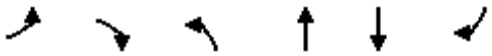
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	609	470	154	367	100	351	776	196	136	518	49
v/c Ratio	0.49	0.78	0.71	0.65	0.69	0.28	0.81	0.58	0.29	0.67	0.61	0.10
Control Delay	52.6	48.5	13.0	65.1	52.3	4.8	54.8	30.0	9.9	64.2	42.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	48.5	13.0	65.1	52.3	4.8	54.8	30.0	9.9	64.2	42.1	0.4
Queue Length 50th (ft)	80	219	35	57	137	0	243	239	28	97	181	0
Queue Length 95th (ft)	154	295	155	#103	187	22	#388	326	86	167	254	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	247	904	703	246	753	442	490	1328	676	263	843	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.67	0.67	0.63	0.49	0.23	0.72	0.58	0.29	0.52	0.61	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	86	95	195	1226	1104	26
v/c Ratio	0.35	0.32	1.07	0.49	0.62	0.03
Control Delay	25.1	8.7	117.3	5.0	12.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	8.7	117.3	5.0	12.3	4.0
Queue Length 50th (ft)	26	0	~69	78	133	0
Queue Length 95th (ft)	59	32	#188	143	216	10
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	536	545	182	2495	1786	811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	1.07	0.49	0.62	0.03

Intersection Summary

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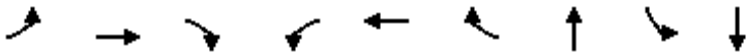
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	121	904	67	105	748	12	138	106	235
v/c Ratio	0.48	0.70	0.10	0.49	0.63	0.02	0.57	0.45	0.36
Control Delay	39.6	23.3	0.7	45.2	24.3	0.1	31.7	39.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	23.3	0.7	45.2	24.3	0.1	31.7	39.8	4.6
Queue Length 50th (ft)	51	187	0	47	158	0	40	45	1
Queue Length 95th (ft)	#123	293	4	#140	250	0	102	#112	45
Internal Link Dist (ft)		796			178		485		340
Turn Bay Length (ft)	175					375		125	
Base Capacity (vph)	321	1819	872	222	1678	814	475	293	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.50	0.08	0.47	0.45	0.01	0.29	0.36	0.24

Intersection Summary

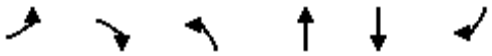
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	110	547	335	307	595	144	294	709	140	144	642	58
v/c Ratio	0.73	0.76	0.57	0.89	0.74	0.29	1.06	0.63	0.22	0.74	0.67	0.10
Control Delay	70.1	39.8	7.7	67.7	36.9	3.6	107.5	28.1	2.5	61.0	32.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	39.8	7.7	67.7	36.9	3.6	107.5	28.1	2.5	61.0	32.4	0.4
Queue Length 50th (ft)	61	150	0	90	164	0	~188	180	0	80	171	0
Queue Length 95th (ft)	#167	207	68	#167	213	26	#345	242	22	#168	232	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	151	800	612	345	953	556	278	1130	626	207	953	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.68	0.55	0.89	0.62	0.26	1.06	0.63	0.22	0.70	0.67	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



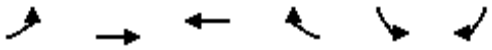
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	112	157	232	1093	1300	36
v/c Ratio	0.39	0.40	1.33	0.46	0.79	0.05
Control Delay	22.6	7.4	210.5	5.4	17.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	210.5	5.4	17.7	4.0
Queue Length 50th (ft)	30	0	~95	68	167	0
Queue Length 95th (ft)	66	37	#217	130	#327	13
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	604	641	174	2390	1650	756
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	1.33	0.46	0.79	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

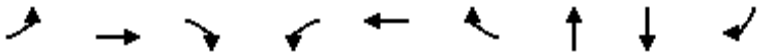
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Existing Plus Project With Recommended Improvements Queue Output Sheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	3	1029	713	93	172	6
v/c Ratio	0.01	0.61	0.45	0.12	0.42	0.02
Control Delay	21.0	8.9	9.4	3.2	18.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	8.9	9.4	3.2	18.1	10.0
Queue Length 50th (ft)	1	71	43	0	30	0
Queue Length 95th (ft)	7	145	141	22	99	7
Internal Link Dist (ft)		2559	796		988	
Turn Bay Length (ft)	200			225	150	
Base Capacity (vph)	311	3277	3117	1401	1142	1084
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.31	0.23	0.07	0.15	0.01

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	60	1060	64	77	646	8	98	54	102
v/c Ratio	0.31	0.76	0.09	0.43	0.46	0.01	0.20	no cap	0.18
Control Delay	41.1	24.4	0.3	48.4	18.5	0.0	12.4		5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	41.1	24.4	0.3	48.4	18.5	0.0	12.4	Error	5.6
Queue Length 50th (ft)	30	252	0	40	136	0	16	~60	0
Queue Length 95th (ft)	72	327	2	#108	188	0	54	#140	33
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	256	1917	912	185	1848	883	650	1	782
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.55	0.07	0.42	0.35	0.01	0.15	54.00	0.13

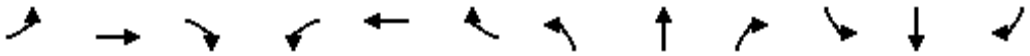
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	259	129	839	614	39
v/c Ratio	0.62	0.46	0.69	0.71	0.05
Control Delay	13.3	32.8	9.0	18.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	32.8	9.0	18.8	1.0
Queue Length 50th (ft)	7	38	106	159	0
Queue Length 95th (ft)	78	124	321	352	6
Internal Link Dist (ft)	1315		2657	1200	
Turn Bay Length (ft)		300			250
Base Capacity (vph)	667	374	1646	1423	1223
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.34	0.51	0.43	0.03

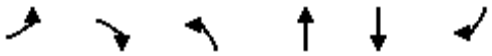
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	609	470	154	367	100	351	776	196	136	518	49
v/c Ratio	0.51	0.81	0.58	0.64	0.69	0.28	0.78	0.58	0.29	0.67	0.63	0.10
Control Delay	53.7	50.1	11.1	64.2	51.8	4.8	50.7	29.4	9.8	63.6	42.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	50.1	11.1	64.2	51.8	4.8	50.7	29.4	9.8	63.6	42.8	0.4
Queue Length 50th (ft)	80	218	108	56	134	0	234	231	27	95	178	0
Queue Length 95th (ft)	154	295	169	#103	187	22	362	326	86	167	257	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	239	913	863	249	761	445	510	1342	682	266	822	470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.67	0.54	0.62	0.48	0.22	0.69	0.58	0.29	0.51	0.63	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	86	95	195	1226	1104	26
v/c Ratio	0.35	0.32	1.07	0.49	0.62	0.03
Control Delay	25.1	8.7	117.3	5.0	12.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	8.7	117.3	5.0	12.3	4.0
Queue Length 50th (ft)	26	0	~69	78	133	0
Queue Length 95th (ft)	59	32	#188	143	216	10
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	536	545	182	2495	1786	811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	1.07	0.49	0.62	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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95th percentile volume exceeds capacity, queue may be longer.
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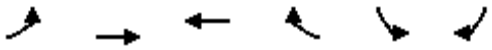
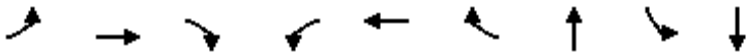


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	6	1004	861	198	111	2
v/c Ratio	0.02	0.58	0.53	0.24	0.31	0.01
Control Delay	20.7	7.5	9.0	2.4	18.0	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	7.5	9.0	2.4	18.0	13.0
Queue Length 50th (ft)	1	58	47	0	17	0
Queue Length 95th (ft)	12	122	166	29	77	5
Internal Link Dist (ft)		2559	796		988	
Turn Bay Length (ft)	200			225	150	
Base Capacity (vph)	332	3277	3151	1421	1085	1029
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.31	0.27	0.14	0.10	0.00

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	121	904	67	105	748	12	138	106	235
v/c Ratio	0.48	0.70	0.10	0.49	0.63	0.02	0.57	0.45	0.36
Control Delay	39.6	23.3	0.7	45.2	24.3	0.1	31.7	39.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	23.3	0.7	45.2	24.3	0.1	31.7	39.8	4.6
Queue Length 50th (ft)	51	187	0	47	158	0	40	45	1
Queue Length 95th (ft)	#123	293	4	#140	250	0	102	#112	45
Internal Link Dist (ft)		796			178		485		340
Turn Bay Length (ft)	175					375		125	
Base Capacity (vph)	321	1819	872	222	1678	814	475	293	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.50	0.08	0.47	0.45	0.01	0.29	0.36	0.24

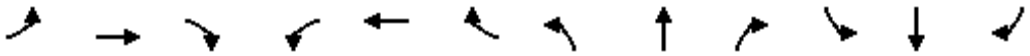
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	258	319	729	785	16
v/c Ratio	0.68	0.90	0.53	0.88	0.02
Control Delay	14.8	62.3	5.2	31.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	62.3	5.2	31.7	0.1
Queue Length 50th (ft)	2	150	75	301	0
Queue Length 95th (ft)	68	#340	229	#636	0
Internal Link Dist (ft)	1315		2657	1200	
Turn Bay Length (ft)		300			250
Base Capacity (vph)	544	353	1417	922	818
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.90	0.51	0.85	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

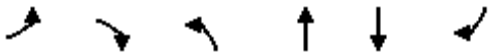


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	110	547	335	307	595	144	294	709	140	144	642	58
v/c Ratio	0.71	0.81	0.52	0.78	0.74	0.29	1.06	0.63	0.22	0.74	0.68	0.10
Control Delay	68.0	44.6	9.9	52.0	37.0	3.6	108.7	28.3	2.5	61.4	32.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	44.6	9.9	52.0	37.0	3.6	108.7	28.3	2.5	61.4	32.6	0.4
Queue Length 50th (ft)	61	155	47	88	164	0	~188	180	0	80	171	0
Queue Length 95th (ft)	#167	#215	91	#147	213	26	#345	242	22	#168	232	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	154	721	643	409	949	555	277	1126	624	206	949	555
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.76	0.52	0.75	0.63	0.26	1.06	0.63	0.22	0.70	0.68	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



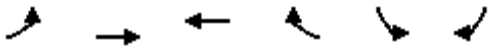
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	112	157	232	1093	1300	36
v/c Ratio	0.39	0.40	1.33	0.46	0.79	0.05
Control Delay	22.6	7.4	210.5	5.4	17.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	210.5	5.4	17.7	4.0
Queue Length 50th (ft)	30	0	~95	68	167	0
Queue Length 95th (ft)	66	37	#217	130	#327	13
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	604	641	174	2390	1650	756
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	1.33	0.46	0.79	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

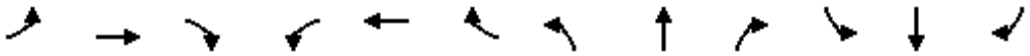
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Project Opening Year (2019) Without Project Queue Output Sheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	63	1162	706	8	54	109
v/c Ratio	0.21	0.58	0.49	0.01	0.19	0.32
Control Delay	19.4	6.2	11.4	0.0	19.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	6.2	11.4	0.0	19.5	8.0
Queue Length 50th (ft)	13	55	66	0	11	0
Queue Length 95th (ft)	46	120	133	0	41	34
Internal Link Dist (ft)		796	178			
Turn Bay Length (ft)	175			375	125	125
Base Capacity (vph)	559	3353	3004	1351	974	964
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.35	0.24	0.01	0.06	0.11

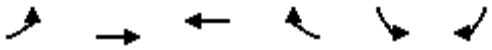
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	607	481	123	353	107	356	805	187	145	533	45
v/c Ratio	0.51	0.76	0.70	0.63	0.68	0.31	0.79	0.60	0.28	0.69	0.65	0.10
Control Delay	53.3	46.1	11.6	67.8	52.0	5.8	50.9	30.2	9.2	64.8	43.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	46.1	11.6	67.8	52.0	5.8	50.9	30.2	9.2	64.8	43.5	0.4
Queue Length 50th (ft)	82	214	28	45	129	0	237	243	23	101	185	0
Queue Length 95th (ft)	155	287	142	#91	181	29	#373	341	78	177	264	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	242	971	741	196	759	444	508	1336	679	265	819	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.63	0.65	0.63	0.47	0.24	0.70	0.60	0.28	0.55	0.65	0.10

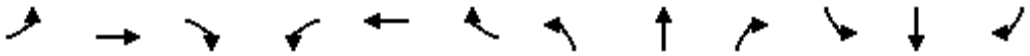
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	129	995	838	13	112	246
v/c Ratio	0.40	0.48	0.62	0.02	0.37	0.51
Control Delay	26.4	5.9	16.6	0.1	26.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	5.9	16.6	0.1	26.6	8.2
Queue Length 50th (ft)	37	65	111	0	32	0
Queue Length 95th (ft)	101	126	216	0	91	57
Internal Link Dist (ft)		796	178			
Turn Bay Length (ft)	175			375	125	125
Base Capacity (vph)	556	3151	2381	1086	792	873
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.35	0.01	0.14	0.28

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	529	338	277	589	154	294	726	111	154	657	54
v/c Ratio	0.75	0.74	0.58	0.81	0.74	0.31	1.05	0.64	0.18	0.78	0.69	0.10
Control Delay	72.3	39.1	7.8	57.5	36.7	4.4	106.1	28.4	1.1	64.8	32.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.3	39.1	7.8	57.5	36.7	4.4	106.1	28.4	1.1	64.8	32.7	0.3
Queue Length 50th (ft)	62	144	0	80	162	0	~188	185	0	86	175	0
Queue Length 95th (ft)	#170	200	68	#145	211	31	#345	249	7	#184	238	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	148	803	616	346	956	558	280	1130	626	207	956	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.66	0.55	0.80	0.62	0.28	1.05	0.64	0.18	0.74	0.69	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Project Opening Year (2019) With Project Queue Output Sheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	63	1127	64	77	686	8	98	57	109
v/c Ratio	0.33	0.78	0.09	0.45	0.50	0.01	0.20	no cap	0.20
Control Delay	42.5	24.7	0.3	50.0	20.1	0.0	12.8		5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	42.5	24.7	0.3	50.0	20.1	0.0	12.8	Error	5.6
Queue Length 50th (ft)	33	276	0	42	147	0	17	~66	0
Queue Length 95th (ft)	74	357	2	#108	201	0	54	#146	34
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	246	1887	899	178	1794	862	627	1	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.60	0.07	0.43	0.38	0.01	0.16	57.00	0.14

Intersection Summary

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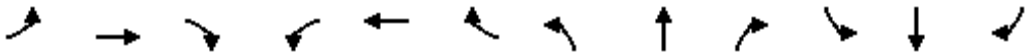
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	126	646	498	160	387	107	371	824	210	145	552	52
v/c Ratio	0.53	0.78	0.72	0.83	0.71	0.30	0.83	0.63	0.31	0.70	0.68	0.11
Control Delay	54.9	46.9	13.9	85.5	52.3	5.5	55.0	31.2	11.0	65.5	45.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	46.9	13.9	85.5	52.3	5.5	55.0	31.2	11.0	65.5	45.0	0.5
Queue Length 50th (ft)	86	231	46	61	144	0	256	258	35	103	197	0
Queue Length 95th (ft)	#170	308	176	#130	195	28	#414	352	97	177	275	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	239	958	728	193	748	440	502	1318	672	261	808	464
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.67	0.68	0.83	0.52	0.24	0.74	0.63	0.31	0.56	0.68	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	86	95	195	1302	1168	26
v/c Ratio	0.35	0.32	1.07	0.52	0.65	0.03
Control Delay	25.1	8.7	117.3	5.2	12.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	8.7	117.3	5.2	12.9	4.0
Queue Length 50th (ft)	26	0	~69	86	144	0
Queue Length 95th (ft)	59	32	#188	157	235	10
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	536	545	182	2495	1786	811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	1.07	0.52	0.65	0.03

Intersection Summary

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95th percentile volume exceeds capacity, queue may be longer.
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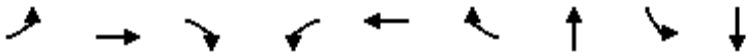
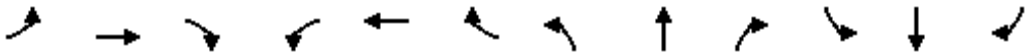


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	129	961	67	105	796	13	138	112	249
v/c Ratio	0.51	0.72	0.10	0.50	0.66	0.02	0.58	0.48	0.38
Control Delay	41.4	23.9	0.7	46.4	24.9	0.1	32.5	41.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	23.9	0.7	46.4	24.9	0.1	32.5	41.6	4.7
Queue Length 50th (ft)	58	205	0	49	175	0	42	50	1
Queue Length 95th (ft)	#140	318	4	#140	271	0	103	#124	46
Internal Link Dist (ft)		796			178		485		340
Turn Bay Length (ft)	175					375		125	
Base Capacity (vph)	313	1791	860	216	1646	801	460	286	969
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.54	0.08	0.49	0.48	0.02	0.30	0.39	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

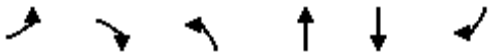


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	116	577	355	323	629	154	310	751	146	154	680	61
v/c Ratio	0.80	0.79	0.59	0.94	0.77	0.30	1.12	0.67	0.23	0.78	0.72	0.11
Control Delay	80.3	41.3	7.8	76.3	37.6	4.3	125.7	29.3	2.9	65.6	33.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	41.3	7.8	76.3	37.6	4.3	125.7	29.3	2.9	65.6	33.8	0.4
Queue Length 50th (ft)	65	160	0	95	173	0	~208	194	0	86	184	0
Queue Length 95th (ft)	#177	220	70	#178	226	31	#368	259	25	#184	247	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	145	798	627	344	950	555	278	1122	622	206	950	555
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.72	0.57	0.94	0.66	0.28	1.12	0.67	0.23	0.75	0.72	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



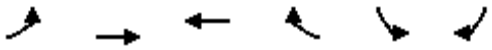
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	112	157	232	1161	1377	36
v/c Ratio	0.39	0.40	1.33	0.49	0.83	0.05
Control Delay	22.6	7.4	210.5	5.6	20.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	210.5	5.6	20.0	4.0
Queue Length 50th (ft)	30	0	~95	75	184	0
Queue Length 95th (ft)	66	37	#217	142	#357	13
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	604	641	174	2390	1650	756
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	1.33	0.49	0.83	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

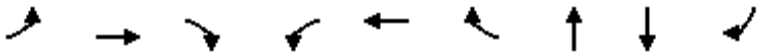
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Project Opening Year (2019) With Project With Recommended Improvements Queue Output Sheets



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	3	1091	756	99	182	6
v/c Ratio	0.01	0.62	0.46	0.12	0.45	0.02
Control Delay	23.0	9.1	9.5	3.0	19.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	9.1	9.5	3.0	19.7	10.6
Queue Length 50th (ft)	1	82	50	0	36	0
Queue Length 95th (ft)	8	163	154	23	108	7
Internal Link Dist (ft)		2559	796		988	
Turn Bay Length (ft)	200			225	150	
Base Capacity (vph)	281	3353	3343	1496	1319	1251
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.33	0.23	0.07	0.14	0.00

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	63	1127	64	77	686	8	98	57	109
v/c Ratio	0.33	0.78	0.09	0.45	0.50	0.01	0.20	no cap	0.20
Control Delay	42.5	24.7	0.3	50.0	20.1	0.0	12.8		5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	42.5	24.7	0.3	50.0	20.1	0.0	12.8	Error	5.6
Queue Length 50th (ft)	33	276	0	42	147	0	17	~66	0
Queue Length 95th (ft)	74	357	2	#108	201	0	54	#146	34
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	246	1887	899	178	1794	862	627	1	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.60	0.07	0.43	0.38	0.01	0.16	57.00	0.14

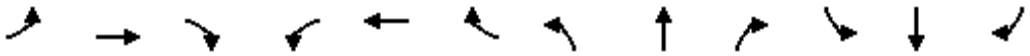
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	274	137	889	650	41
v/c Ratio	0.67	0.48	0.70	0.79	0.06
Control Delay	15.5	35.4	8.7	23.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	35.4	8.7	23.4	2.6
Queue Length 50th (ft)	8	45	123	184	0
Queue Length 95th (ft)	94	145	369	455	12
Internal Link Dist (ft)	1315		2657	1200	
Turn Bay Length (ft)		300			250
Base Capacity (vph)	695	506	1712	1581	1349
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.27	0.52	0.41	0.03

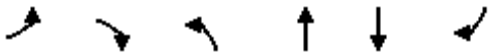
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	126	646	498	160	387	107	371	824	210	145	552	52
v/c Ratio	0.56	0.84	0.61	0.73	0.71	0.30	0.83	0.62	0.31	0.69	0.66	0.11
Control Delay	57.3	52.0	12.0	72.1	52.2	5.5	55.7	30.6	10.9	64.1	43.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	52.0	12.0	72.1	52.2	5.5	55.7	30.6	10.9	64.1	43.3	0.5
Queue Length 50th (ft)	88	240	124	61	146	0	258	258	35	105	198	0
Queue Length 95th (ft)	#181	316	191	#120	195	28	#414	352	97	175	272	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	226	902	865	220	751	441	504	1336	679	277	842	478
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.72	0.58	0.73	0.52	0.24	0.74	0.62	0.31	0.52	0.66	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	86	95	195	1302	1168	26
v/c Ratio	0.35	0.32	1.07	0.52	0.65	0.03
Control Delay	25.1	8.7	117.3	5.2	12.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	8.7	117.3	5.2	12.9	4.0
Queue Length 50th (ft)	26	0	~69	86	144	0
Queue Length 95th (ft)	59	32	#188	157	235	10
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	536	545	182	2495	1786	811
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	1.07	0.52	0.65	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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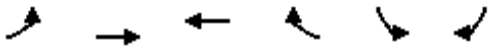
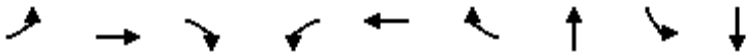
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	6	1064	911	209	118	2
v/c Ratio	0.02	0.60	0.55	0.25	0.33	0.01
Control Delay	21.8	7.8	9.2	2.4	19.0	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	7.8	9.2	2.4	19.0	13.5
Queue Length 50th (ft)	1	65	52	0	19	0
Queue Length 95th (ft)	12	137	181	30	84	5
Internal Link Dist (ft)		2559	796		988	
Turn Bay Length (ft)	200			225	150	
Base Capacity (vph)	320	3265	3143	1419	1001	950
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.33	0.29	0.15	0.12	0.00

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	129	961	67	105	796	13	138	112	249
v/c Ratio	0.51	0.72	0.10	0.50	0.66	0.02	0.58	0.48	0.38
Control Delay	41.4	23.9	0.7	46.4	24.9	0.1	32.5	41.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	23.9	0.7	46.4	24.9	0.1	32.5	41.6	4.7
Queue Length 50th (ft)	58	205	0	49	175	0	42	50	1
Queue Length 95th (ft)	#140	318	4	#140	271	0	103	#124	46
Internal Link Dist (ft)		796			178		485		340
Turn Bay Length (ft)	175					375		125	
Base Capacity (vph)	313	1791	860	216	1646	801	460	286	969
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.54	0.08	0.49	0.48	0.02	0.30	0.39	0.26

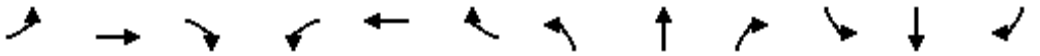
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	272	337	772	831	18
v/c Ratio	0.69	0.97	0.56	0.92	0.02
Control Delay	14.9	76.8	5.6	36.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	76.8	5.6	36.3	0.1
Queue Length 50th (ft)	2	161	83	335	0
Queue Length 95th (ft)	69	#367	260	#696	0
Internal Link Dist (ft)	1315		2657	1200	
Turn Bay Length (ft)		300			250
Base Capacity (vph)	549	346	1390	904	804
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.97	0.56	0.92	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

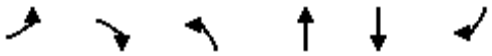


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	116	577	355	323	629	154	310	751	146	154	680	61
v/c Ratio	0.89	0.82	0.54	0.94	0.77	0.30	1.12	0.66	0.23	0.74	0.69	0.11
Control Delay	97.9	44.1	10.4	77.3	37.7	4.3	127.7	29.1	2.8	59.9	32.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.9	44.1	10.4	77.3	37.7	4.3	127.7	29.1	2.8	59.9	32.4	0.4
Queue Length 50th (ft)	66	163	54	95	173	0	~208	194	0	85	181	0
Queue Length 95th (ft)	#187	223	103	#178	226	31	#368	259	25	#173	243	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	131	756	655	342	946	554	276	1131	626	223	983	568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.76	0.54	0.94	0.66	0.28	1.12	0.66	0.23	0.69	0.69	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



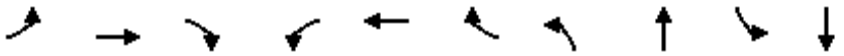
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	112	157	232	1161	1377	36
v/c Ratio	0.39	0.40	1.33	0.49	0.83	0.05
Control Delay	22.6	7.4	210.5	5.6	20.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	210.5	5.6	20.0	4.0
Queue Length 50th (ft)	30	0	~95	75	184	0
Queue Length 95th (ft)	66	37	#217	142	#357	13
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	604	641	174	2390	1650	756
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	1.33	0.49	0.83	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

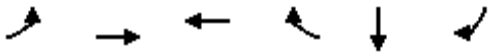
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Interim Year (2029/2030) Without Project Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1038	65	108	778	88	5	70	153	199
v/c Ratio	0.08	0.82	0.10	0.57	0.45	0.10	0.06	0.08	0.66	0.14
Control Delay	50.7	38.0	0.3	36.2	8.9	0.3	51.2	37.1	58.0	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	38.0	0.3	36.2	8.9	0.3	51.2	37.1	58.0	24.1
Queue Length 50th (ft)	5	345	0	53	67	1	3	18	104	43
Queue Length 95th (ft)	20	387	0	130	58	1	16	46	163	92
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	92	1390	712	215	1749	857	86	879	295	1431
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.75	0.09	0.50	0.44	0.10	0.06	0.08	0.52	0.14

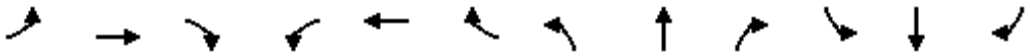
Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	66	1103	717	9	52	124
v/c Ratio	0.45	0.77	0.68	0.02	0.06	0.14
Control Delay	73.3	7.7	15.6	0.8	16.2	3.7
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	73.3	7.7	15.7	0.8	16.2	3.7
Queue Length 50th (ft)	41	57	147	0	17	0
Queue Length 95th (ft)	m67	67	183	m1	46	35
Internal Link Dist (ft)		796	178		340	
Turn Bay Length (ft)	175			375		125
Base Capacity (vph)	266	2332	1624	759	905	870
Starvation Cap Reductn	0	0	125	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.47	0.48	0.01	0.06	0.14

Intersection Summary

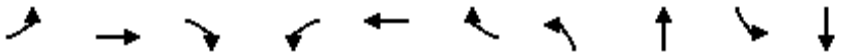
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	147	599	553	160	397	141	404	1092	208	191	791	59
v/c Ratio	0.62	0.74	0.73	0.68	0.69	0.37	0.96	0.76	0.30	0.90	0.80	0.11
Control Delay	39.1	20.5	13.7	41.4	32.2	5.1	68.9	26.5	9.2	88.8	44.3	1.6
Queue Delay	19.8	13.4	11.5	0.0	0.0	0.0	45.2	49.2	3.7	0.0	0.2	0.0
Total Delay	58.9	34.0	25.2	41.4	32.2	5.1	114.0	75.6	12.9	88.8	44.5	1.6
Queue Length 50th (ft)	109	153	302	56	58	6	283	352	58	136	279	0
Queue Length 95th (ft)	#205	182	78	#113	51	10	#481	437	90	#274	#364	7
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	239	900	789	234	804	474	419	1429	701	212	994	519
Starvation Cap Reductn	79	285	213	0	0	0	167	439	403	0	0	0
Spillback Cap Reductn	0	0	47	0	0	0	0	0	0	0	17	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.97	0.96	0.68	0.49	0.30	1.60	1.10	0.70	0.90	0.81	0.11

Intersection Summary

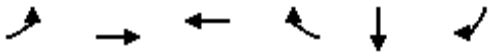
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	1126	40	68	974	333	28	148	104	121
v/c Ratio	0.15	0.83	0.06	0.44	0.61	0.37	0.28	0.16	0.57	0.10
Control Delay	51.9	36.0	0.2	37.6	15.2	1.6	56.3	31.3	57.7	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	36.0	0.2	37.6	15.2	1.6	56.3	31.3	57.7	26.8
Queue Length 50th (ft)	10	367	0	37	63	1	19	36	71	29
Queue Length 95th (ft)	31	415	0	m84	128	1	50	75	122	59
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	100	1484	750	171	1688	929	101	990	274	1337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.76	0.05	0.40	0.58	0.36	0.28	0.15	0.38	0.09

Intersection Summary

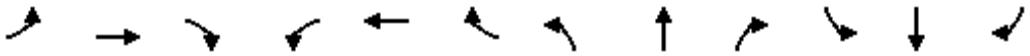
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	155	1042	921	17	124	269
v/c Ratio	0.66	0.58	0.79	0.03	0.22	0.33
Control Delay	40.4	4.3	25.7	0.1	25.8	4.7
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	40.4	4.3	25.8	0.1	25.8	4.7
Queue Length 50th (ft)	119	43	177	0	56	0
Queue Length 95th (ft)	m156	44	m165	m0	121	60
Internal Link Dist (ft)		796	178		340	
Turn Bay Length (ft)	175			375		125
Base Capacity (vph)	342	2079	1496	729	575	804
Starvation Cap Reductn	0	0	40	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.50	0.63	0.02	0.22	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



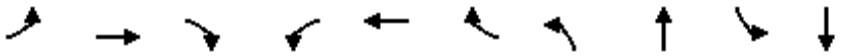
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	599	412	345	647	216	392	1193	158	227	1019	75
v/c Ratio	0.85	0.84	0.68	0.93	0.85	0.42	1.05	0.90	0.24	0.96	0.99	0.13
Control Delay	71.1	38.7	11.0	61.5	26.7	3.3	88.8	42.7	11.5	97.6	65.2	0.5
Queue Delay	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	38.7	12.0	61.5	26.7	3.3	88.8	42.7	11.5	97.6	65.2	0.5
Queue Length 50th (ft)	112	147	6	132	142	5	~295	424	47	162	376	0
Queue Length 95th (ft)	#233	#254	95	#229	216	8	#486	#550	98	#315	#521	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	179	739	612	369	804	526	373	1319	655	236	1029	566
Starvation Cap Reductn	0	0	60	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.81	0.75	0.93	0.80	0.41	1.05	0.90	0.24	0.96	0.99	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

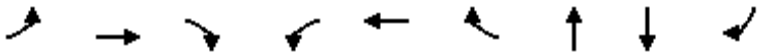
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Interim Year (2029/2030) With Project Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1057	65	108	795	96	5	70	161	199
v/c Ratio	0.08	0.81	0.10	0.59	0.46	0.11	0.06	0.09	0.67	0.15
Control Delay	50.7	36.8	0.3	46.3	12.6	0.7	51.2	37.7	58.0	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	36.8	0.3	46.3	12.6	0.7	51.2	37.7	58.0	24.3
Queue Length 50th (ft)	5	351	0	68	118	2	3	19	109	44
Queue Length 95th (ft)	20	385	0	126	77	0	16	46	170	91
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	92	1417	723	199	1759	861	86	853	299	1409
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.75	0.09	0.54	0.45	0.11	0.06	0.08	0.54	0.14

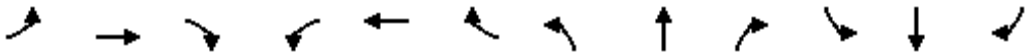
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	66	1069	61	73	698	9	92	65	124
v/c Ratio	0.45	0.77	0.09	0.48	0.50	0.01	0.14	0.12	0.17
Control Delay	78.0	7.3	0.5	45.8	24.2	0.9	15.5	26.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	7.3	0.5	45.8	24.2	0.9	15.5	26.0	5.8
Queue Length 50th (ft)	47	72	1	45	142	0	21	29	0
Queue Length 95th (ft)	m68	93	m1	m73	m144	m0	67	71	44
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	205	1849	856	220	1882	869	644	558	724
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.58	0.07	0.33	0.37	0.01	0.14	0.12	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

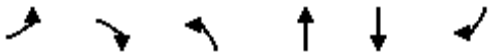


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	637	568	196	429	141	419	1109	231	191	808	65
v/c Ratio	0.59	0.76	0.92	0.72	0.70	0.36	1.25	0.84	0.35	0.84	0.74	0.11
Control Delay	47.6	27.6	34.3	45.2	21.7	3.7	163.8	38.8	14.5	76.3	38.9	0.4
Queue Delay	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	47.6	27.6	36.5	45.2	21.7	3.7	163.8	38.8	14.5	76.3	39.0	0.4
Queue Length 50th (ft)	109	243	0	74	93	9	~379	440	89	132	267	0
Queue Length 95th (ft)	#218	235	#94	#127	67	15	#580	#522	118	#252	341	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	256	900	641	274	804	474	336	1322	656	237	1093	592
Starvation Cap Reductn	0	0	23	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	1	0	0	0	0	0	0	0	11	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.71	0.92	0.72	0.53	0.30	1.25	0.84	0.35	0.81	0.75	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

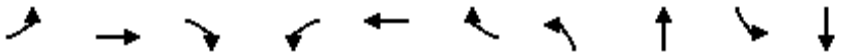
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	83	92	188	1675	1547	25
v/c Ratio	0.51	0.39	0.72	0.58	0.70	0.03
Control Delay	57.0	14.0	37.6	12.5	14.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	57.0	14.0	37.6	12.5	14.2	3.8
Queue Length 50th (ft)	57	0	125	466	258	0
Queue Length 95th (ft)	103	47	m144	m492	295	m1
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	274	335	295	2902	2208	996
Starvation Cap Reductn	0	0	0	0	148	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.27	0.64	0.58	0.75	0.03

Intersection Summary

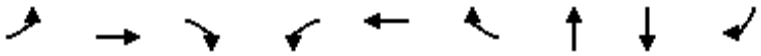
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	1151	40	68	998	343	28	148	115	121
v/c Ratio	0.15	0.83	0.06	0.46	0.62	0.38	0.28	0.16	0.59	0.10
Control Delay	51.9	35.5	0.2	41.7	15.1	1.6	57.0	32.2	57.7	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	35.5	0.2	41.7	15.1	1.6	57.0	32.2	57.7	26.8
Queue Length 50th (ft)	10	376	0	42	78	0	19	37	78	30
Queue Length 95th (ft)	31	413	0	m90	258	4	50	76	131	58
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	100	1499	757	164	1699	938	99	958	274	1325
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.77	0.05	0.41	0.59	0.37	0.28	0.15	0.42	0.09

Intersection Summary

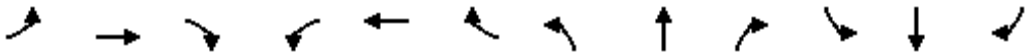
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	155	1007	69	108	878	17	143	127	269
v/c Ratio	0.43	0.75	0.11	0.43	0.79	0.03	0.29	0.31	0.37
Control Delay	30.4	7.8	0.5	44.9	31.0	0.1	23.4	31.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	30.4	7.8	0.5	44.9	31.0	0.1	23.4	31.4	5.4
Queue Length 50th (ft)	117	53	1	81	195	0	53	65	0
Queue Length 95th (ft)	m149	84	m1	m83	m174	m0	120	133	63
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	363	2042	942	253	1496	729	501	411	721
Starvation Cap Reductn	0	0	0	0	43	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.49	0.07	0.43	0.60	0.02	0.29	0.31	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



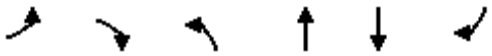
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	157	648	428	392	688	216	408	1218	194	227	1043	82
v/c Ratio	0.93	0.89	0.71	1.09	0.88	0.42	1.09	0.92	0.30	0.96	1.01	0.14
Control Delay	89.1	43.6	11.4	100.2	29.8	3.5	101.8	43.1	12.9	97.6	70.7	0.5
Queue Delay	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.1	43.6	13.2	100.2	29.8	3.5	101.8	43.1	12.9	97.6	70.7	0.5
Queue Length 50th (ft)	117	187	6	~170	147	4	~321	437	62	162	~396	0
Queue Length 95th (ft)	#243	#326	90	#270	#324	m12	#513	#562	130	#315	#540	1
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	168	739	611	360	804	526	373	1319	655	236	1029	566
Starvation Cap Reductn	0	0	74	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.88	0.80	1.09	0.86	0.41	1.09	0.92	0.30	0.96	1.01	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	108	152	224	1705	1812	35
v/c Ratio	0.57	0.49	1.28	0.60	0.78	0.03
Control Delay	57.6	12.3	175.5	0.9	8.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0
Total Delay	57.6	12.3	175.5	0.9	9.3	0.4
Queue Length 50th (ft)	73	0	~204	4	448	0
Queue Length 95th (ft)	125	57	m#240	m53	m501	m1
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	274	386	175	2851	2336	1056
Starvation Cap Reductn	0	0	0	0	159	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.39	1.28	0.60	0.83	0.03

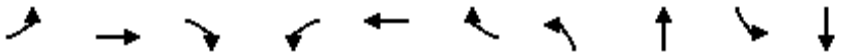
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

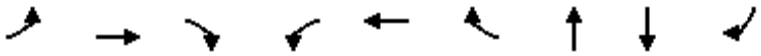
m Volume for 95th percentile queue is metered by upstream signal.

Interim Year (2029/2030) With Project With Recommended Improvements Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	1057	65	108	795	96	5	70	161	199
v/c Ratio	0.08	0.81	0.10	0.59	0.46	0.11	0.06	0.09	0.67	0.15
Control Delay	50.7	36.8	0.3	46.3	12.6	0.7	51.2	37.7	58.0	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	36.8	0.3	46.3	12.6	0.7	51.2	37.7	58.0	24.3
Queue Length 50th (ft)	5	351	0	68	118	2	3	19	109	44
Queue Length 95th (ft)	20	385	0	126	77	0	16	46	170	91
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	92	1417	723	199	1759	861	86	853	299	1409
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.75	0.09	0.54	0.45	0.11	0.06	0.08	0.54	0.14

Intersection Summary



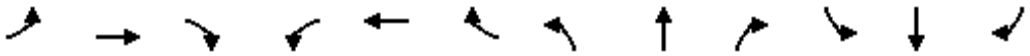
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	66	1069	61	73	698	9	92	65	124
v/c Ratio	0.45	0.77	0.09	0.48	0.50	0.01	0.14	0.12	0.17
Control Delay	78.0	7.3	0.5	50.0	26.2	1.0	15.5	26.0	5.8
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	7.3	0.5	50.0	26.2	1.0	15.5	26.0	5.8
Queue Length 50th (ft)	47	72	1	45	142	0	21	29	0
Queue Length 95th (ft)	m68	93	m1	m91	172	m0	67	71	44
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	205	1849	856	220	1882	869	644	558	724
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	74	0	0	0	0	1	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.60	0.07	0.33	0.37	0.01	0.14	0.12	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	368	63	168	1409	35	1121
v/c Ratio	0.76	0.29	0.55	0.67	0.22	0.75
Control Delay	23.1	23.8	39.5	14.1	44.0	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	23.8	39.5	14.1	44.0	22.5
Queue Length 50th (ft)	55	15	67	236	14	205
Queue Length 95th (ft)	187	58	178	442	57	410
Internal Link Dist (ft)	1315	1550		2657		1200
Turn Bay Length (ft)			300			
Base Capacity (vph)	833	481	487	2893	171	2431
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.13	0.34	0.49	0.20	0.46

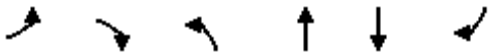
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	637	568	196	429	141	419	1109	231	191	808	65
v/c Ratio	0.63	0.80	0.86	0.69	0.70	0.36	0.76	0.82	0.34	0.84	0.65	0.10
Control Delay	49.7	29.8	36.5	41.6	21.7	3.7	48.5	34.2	12.4	76.0	34.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	49.7	29.8	36.5	41.6	21.7	3.7	48.5	34.2	12.4	76.0	34.5	0.3
Queue Length 50th (ft)	109	244	368	72	93	9	134	388	65	132	266	0
Queue Length 95th (ft)	#218	235	471	#127	67	15	180	#506	124	#252	341	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	241	900	685	288	804	474	606	1354	670	238	1234	649
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	23	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.71	0.83	0.68	0.53	0.30	0.69	0.82	0.34	0.80	0.67	0.10

Intersection Summary

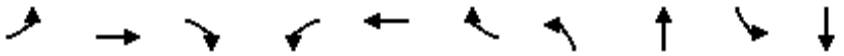
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	83	92	188	1675	1547	25
v/c Ratio	0.51	0.39	0.72	0.58	0.70	0.03
Control Delay	57.0	14.0	59.8	4.6	14.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	57.0	14.0	59.8	4.6	14.8	3.2
Queue Length 50th (ft)	57	0	127	160	284	0
Queue Length 95th (ft)	103	47	197	257	353	m1
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	274	335	295	2902	2208	996
Starvation Cap Reductn	0	0	0	0	166	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.27	0.64	0.58	0.76	0.03

Intersection Summary

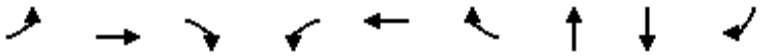
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	1151	40	68	998	343	28	148	115	121
v/c Ratio	0.15	0.83	0.06	0.46	0.62	0.38	0.28	0.16	0.59	0.10
Control Delay	51.9	35.5	0.2	42.0	15.4	1.8	57.0	32.2	57.7	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	35.5	0.2	42.0	15.4	1.8	57.0	32.2	57.7	26.8
Queue Length 50th (ft)	10	376	0	43	78	0	19	37	78	30
Queue Length 95th (ft)	31	413	0	m90	257	4	50	76	131	58
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	100	1499	757	164	1699	938	99	958	274	1325
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.77	0.05	0.41	0.59	0.37	0.28	0.15	0.42	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	155	1007	69	108	878	17	143	127	269
v/c Ratio	0.43	0.75	0.11	0.43	0.79	0.03	0.29	0.31	0.37
Control Delay	30.4	7.8	0.5	45.2	48.9	0.2	23.4	31.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	30.4	7.8	0.5	45.2	49.0	0.2	23.4	31.4	5.4
Queue Length 50th (ft)	117	53	1	78	273	0	53	65	0
Queue Length 95th (ft)	m149	84	m1	m100	m270	m0	120	133	63
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	363	2042	942	253	1496	729	501	411	721
Starvation Cap Reductn	0	0	0	0	43	0	0	0	0
Spillback Cap Reductn	0	13	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.50	0.07	0.43	0.60	0.02	0.29	0.31	0.37

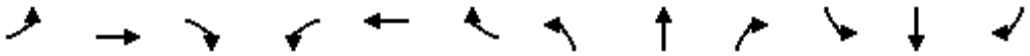
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	380	125	449	1455	35	1460
v/c Ratio	0.69	0.91	0.96	0.59	0.39	0.95
Control Delay	13.9	95.0	72.1	10.3	63.5	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	95.0	72.1	10.3	63.5	44.6
Queue Length 50th (ft)	22	73	313	284	24	513
Queue Length 95th (ft)	120	#188	#516	348	59	#680
Internal Link Dist (ft)	1315	1550		2657		1200
Turn Bay Length (ft)			300			
Base Capacity (vph)	563	144	473	2472	90	1554
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.87	0.95	0.59	0.39	0.94

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

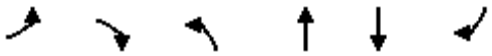


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	157	648	428	392	688	216	408	1218	194	227	1043	82
v/c Ratio	0.92	0.94	0.75	0.97	0.87	0.41	0.89	0.94	0.30	0.96	0.80	0.13
Control Delay	90.7	49.1	23.1	70.1	27.9	4.9	56.4	48.3	16.8	97.6	36.7	3.1
Queue Delay	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.7	49.1	24.0	70.1	27.9	4.9	56.4	48.3	16.8	97.6	36.7	3.1
Queue Length 50th (ft)	119	216	205	152	243	37	138	475	71	162	343	0
Queue Length 95th (ft)	#254	#345	299	#249	#283	m53	#232	#572	132	#315	427	21
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	171	691	572	404	820	532	458	1302	648	236	1304	649
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	31	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.94	0.79	0.97	0.84	0.41	0.89	0.94	0.30	0.96	0.80	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	108	152	224	1705	1812	35
v/c Ratio	0.57	0.49	1.28	0.60	0.78	0.03
Control Delay	57.6	12.3	179.4	1.4	15.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	1.0	0.0
Total Delay	57.6	12.3	179.4	1.4	16.8	2.3
Queue Length 50th (ft)	73	0	~205	24	524	1
Queue Length 95th (ft)	125	57	m#267	m97	m657	m1
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	274	386	175	2851	2336	1056
Starvation Cap Reductn	0	0	0	0	272	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.39	1.28	0.60	0.88	0.03

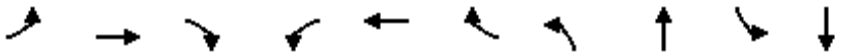
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

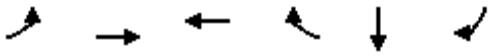
General Plan Without Project Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1116	121	200	884	95	11	132	153	363
v/c Ratio	0.12	0.86	0.18	0.77	0.47	0.10	0.13	0.19	0.68	0.29
Control Delay	56.7	42.4	3.5	46.9	5.9	0.2	58.3	42.8	64.2	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	42.4	3.5	46.9	5.9	0.2	58.3	42.8	64.2	30.5
Queue Length 50th (ft)	8	410	0	161	52	0	8	43	114	104
Queue Length 95th (ft)	28	481	30	#248	83	1	29	81	177	171
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	88	1357	690	293	1908	916	82	780	268	1270
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.82	0.18	0.68	0.46	0.10	0.13	0.17	0.57	0.29

Intersection Summary

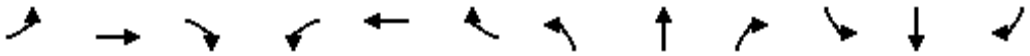
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	74	1158	789	11	74	147
v/c Ratio	0.50	0.77	0.70	0.02	0.08	0.17
Control Delay	84.2	5.5	44.5	3.5	18.4	3.8
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	84.2	5.5	44.6	3.5	18.4	3.8
Queue Length 50th (ft)	59	75	342	0	28	0
Queue Length 95th (ft)	m75	42	m362	m0	67	40
Internal Link Dist (ft)		796	178		340	
Turn Bay Length (ft)	175			375		125
Base Capacity (vph)	258	2374	1695	787	885	865
Starvation Cap Reductn	0	0	129	0	0	0
Spillback Cap Reductn	0	130	0	0	49	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.52	0.50	0.01	0.09	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

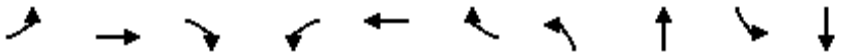


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	642	653	200	463	179	474	1400	242	242	1053	74
v/c Ratio	1.12	0.81	0.96	0.87	0.64	0.39	1.09	0.97	0.33	1.02	1.02	0.13
Control Delay	141.2	45.7	53.2	61.9	20.4	6.7	112.3	33.3	4.2	114.3	75.4	0.4
Queue Delay	0.0	0.0	17.4	0.0	0.0	0.0	3.6	42.1	1.0	0.0	0.0	0.1
Total Delay	141.2	45.7	70.6	61.9	20.4	6.7	115.9	75.4	5.2	114.3	75.4	0.5
Queue Length 50th (ft)	~163	275	359	80	174	50	~414	433	12	~204	~455	0
Queue Length 95th (ft)	#302	335	#485	#156	182	78	#627	#705	45	#369	#589	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	160	825	687	230	737	471	433	1445	726	238	1032	587
Starvation Cap Reductn	0	0	53	0	0	0	64	290	271	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	94
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.78	1.03	0.87	0.63	0.38	1.28	1.21	0.53	1.02	1.02	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

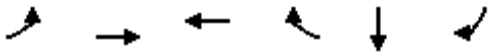
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	1232	74	126	1074	453	53	274	105	221
v/c Ratio	0.23	0.86	0.10	0.67	0.59	0.44	0.45	0.34	0.58	0.22
Control Delay	60.3	39.0	0.3	61.0	13.6	3.0	65.0	39.6	63.4	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	39.0	0.3	61.0	13.6	3.0	65.0	39.6	63.4	35.4
Queue Length 50th (ft)	16	442	0	100	78	0	40	88	79	70
Queue Length 95th (ft)	43	515	0	m161	499	149	83	141	132	109
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	91	1531	762	208	1836	1039	135	811	251	1026
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.80	0.10	0.61	0.58	0.44	0.39	0.34	0.42	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	179	1105	1011	21	137	295
v/c Ratio	0.71	0.58	0.81	0.04	0.20	0.37
Control Delay	31.0	2.2	13.3	0.8	29.2	5.2
Queue Delay	0.0	0.0	0.9	0.0	0.0	0.0
Total Delay	31.0	2.2	14.1	0.8	29.2	5.2
Queue Length 50th (ft)	133	22	273	0	71	0
Queue Length 95th (ft)	m134	19	m252	m1	143	68
Internal Link Dist (ft)		796	178		340	
Turn Bay Length (ft)	175			375		125
Base Capacity (vph)	356	2433	1548	723	679	789
Starvation Cap Reductn	0	0	265	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.45	0.79	0.03	0.20	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	189	674	484	411	716	274	484	1611	200	295	1347	95
v/c Ratio	1.29	0.99	0.87	1.28	0.97	0.52	1.36	1.07	0.27	1.37	1.11	0.14
Control Delay	212.7	84.8	44.1	179.6	55.1	12.2	214.2	69.6	6.6	231.1	100.5	0.5
Queue Delay	0.0	0.0	1.5	0.0	0.0	0.0	1.0	12.7	0.8	0.0	0.0	0.0
Total Delay	212.7	84.8	45.6	179.6	55.1	12.2	215.1	82.2	7.4	231.1	100.5	0.5
Queue Length 50th (ft)	~191	292	235	~213	306	122	~489	~732	20	~301	~630	0
Queue Length 95th (ft)	#339	#415	#350	#315	#422	185	#706	#864	m48	#478	#767	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	146	678	554	320	737	524	356	1504	750	216	1209	657
Starvation Cap Reductn	0	0	13	0	0	0	30	269	313	0	0	0
Spillback Cap Reductn	0	0	15	0	0	0	20	0	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	0.99	0.90	1.28	0.97	0.52	1.48	1.30	0.46	1.37	1.11	0.15

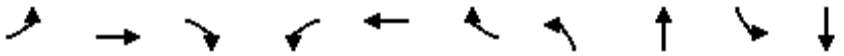
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

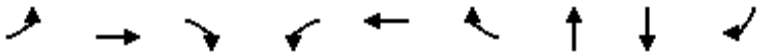
General Plan With Project Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1135	121	200	901	102	11	132	161	363
v/c Ratio	0.12	0.86	0.18	0.77	0.47	0.11	0.13	0.20	0.69	0.29
Control Delay	56.7	42.3	3.5	52.9	8.9	0.3	58.3	43.6	64.1	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	42.3	3.5	52.9	8.9	0.3	58.3	43.6	64.1	30.8
Queue Length 50th (ft)	8	415	0	159	61	0	8	44	120	105
Queue Length 95th (ft)	28	490	29	#259	102	0	29	81	184	170
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	88	1378	699	284	1921	921	82	756	272	1250
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.82	0.17	0.70	0.47	0.11	0.13	0.17	0.59	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



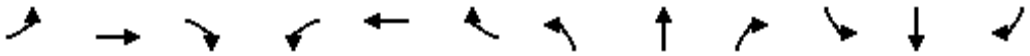
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	74	1124	61	73	771	11	93	77	147
v/c Ratio	0.25	0.80	0.09	0.50	0.71	0.02	0.14	no cap	0.20
Control Delay	28.9	9.4	0.2	52.1	9.8	0.0	17.5		5.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	28.9	9.5	0.2	52.1	9.8	0.0	17.5	Error	5.4
Queue Length 50th (ft)	59	147	0	60	131	0	26	~124	0
Queue Length 95th (ft)	m69	70	m0	m72	m134	m0	74	#226	48
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	318	1725	820	203	1784	845	649	1	748
Starvation Cap Reductn	0	0	0	0	37	0	0	0	0
Spillback Cap Reductn	0	79	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.68	0.07	0.36	0.44	0.01	0.14	77.00	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

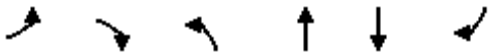


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	680	668	236	496	179	488	1418	264	242	1071	80
v/c Ratio	0.90	0.87	0.94	0.92	0.77	0.41	1.18	0.98	0.38	1.05	1.01	0.15
Control Delay	73.3	39.2	32.3	72.5	27.5	5.1	129.5	36.9	6.7	123.6	71.9	5.0
Queue Delay	0.0	0.0	45.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.3	39.2	77.8	72.5	27.5	5.1	129.5	36.9	6.7	123.6	71.9	5.0
Queue Length 50th (ft)	147	175	412	96	180	31	~459	505	24	~204	~443	0
Queue Length 95th (ft)	#289	284	#352	#185	163	46	#664	#721	92	#369	#592	28
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	204	796	715	257	737	471	412	1445	702	230	1061	541
Starvation Cap Reductn	0	0	151	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.85	1.18	0.92	0.67	0.38	1.18	0.98	0.38	1.05	1.01	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

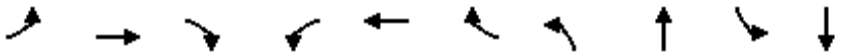
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	83	92	188	2086	1947	25
v/c Ratio	0.53	0.40	0.87	0.71	0.83	0.02
Control Delay	63.3	14.9	48.6	2.5	6.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	63.3	14.9	48.6	2.5	7.3	0.1
Queue Length 50th (ft)	62	0	156	51	98	0
Queue Length 95th (ft)	112	49	m140	m60	m176	m0
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	251	315	216	2941	2351	1059
Starvation Cap Reductn	0	0	0	0	109	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.29	0.87	0.71	0.87	0.02

Intersection Summary

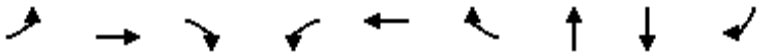
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	1256	74	126	1098	463	53	274	116	221
v/c Ratio	0.24	0.87	0.10	0.67	0.60	0.45	0.45	0.35	0.61	0.22
Control Delay	61.2	39.8	0.3	63.8	25.1	5.7	64.9	40.4	63.9	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	39.8	0.3	63.8	25.1	5.7	64.9	40.4	63.9	35.4
Queue Length 50th (ft)	16	451	0	81	235	57	40	90	87	70
Queue Length 95th (ft)	44	540	0	m138	273	54	83	141	143	107
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	88	1528	761	208	1846	1047	135	792	253	1015
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.82	0.10	0.61	0.59	0.44	0.39	0.35	0.46	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



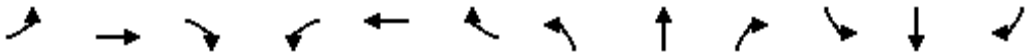
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	179	1071	69	108	967	21	143	140	295
v/c Ratio	0.72	0.79	0.10	0.61	0.81	0.04	0.25	no cap	0.36
Control Delay	58.5	11.5	0.3	44.3	31.3	0.0	22.7		4.8
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.0		0.0
Total Delay	58.5	11.5	0.3	44.3	31.9	0.0	22.7	Error	4.8
Queue Length 50th (ft)	103	143	0	62	184	0	56	~226	0
Queue Length 95th (ft)	m133	97	m0	m64	m116	m0	126	#358	64
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	328	1695	808	201	1400	684	572	1	812
Starvation Cap Reductn	0	0	0	0	145	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.63	0.09	0.54	0.77	0.03	0.25	140.00	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	195	723	501	457	757	274	501	1636	236	295	1372	102
v/c Ratio	1.22	1.02	0.88	1.43	1.03	0.52	1.41	1.11	0.32	1.37	1.16	0.16
Control Delay	179.8	67.1	26.4	238.1	68.9	13.0	235.5	93.5	11.0	231.1	120.0	0.5
Queue Delay	0.0	0.0	43.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	179.8	67.1	69.4	238.1	69.4	13.0	235.5	93.5	11.0	231.1	120.0	0.5
Queue Length 50th (ft)	~178	~267	128	~252	~337	119	~520	~762	47	~301	~663	0
Queue Length 95th (ft)	#289	#360	#169	#358	#460	183	#733	#901	106	#478	#801	0
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	160	707	567	320	737	526	356	1474	738	216	1179	645
Starvation Cap Reductn	0	0	105	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	1	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.02	1.08	1.43	1.03	0.52	1.41	1.11	0.32	1.37	1.16	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

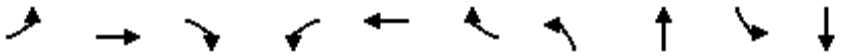
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	108	152	224	2254	2277	35
v/c Ratio	0.50	0.45	1.17	0.83	1.08	0.04
Control Delay	41.8	10.5	153.0	11.0	66.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.5	153.0	11.0	66.3	4.0
Queue Length 50th (ft)	53	0	~139	309	~705	1
Queue Length 95th (ft)	102	50	#292	550	#916	14
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	365	463	192	2700	2100	950
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.33	1.17	0.83	1.08	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

General Plan With Project With Recommended Improvements Queue Output Sheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1135	121	200	901	102	11	132	161	363
v/c Ratio	0.12	0.86	0.18	0.77	0.47	0.11	0.13	0.20	0.69	0.29
Control Delay	56.7	42.3	3.5	54.1	10.0	0.3	58.3	43.6	64.1	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	42.3	3.5	54.1	10.0	0.3	58.3	43.6	64.1	30.8
Queue Length 50th (ft)	8	415	0	159	61	0	8	44	120	105
Queue Length 95th (ft)	28	490	29	#259	103	0	29	81	184	170
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	88	1378	699	284	1921	921	82	756	272	1250
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.82	0.17	0.70	0.47	0.11	0.13	0.17	0.59	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	74	1124	61	73	771	11	93	77	147
v/c Ratio	0.25	0.80	0.09	0.50	0.71	0.02	0.14	no cap	0.20
Control Delay	28.9	9.4	0.2	51.7	18.7	0.1	17.5		5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	28.9	9.4	0.2	51.7	18.7	0.1	17.5	Error	5.4
Queue Length 50th (ft)	59	147	0	61	220	0	26	~124	0
Queue Length 95th (ft)	m69	70	m0	m91	175	m0	74	#226	48
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	318	1725	820	203	1784	845	649	1	748
Starvation Cap Reductn	0	0	0	0	37	0	0	0	0
Spillback Cap Reductn	0	7	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.65	0.07	0.36	0.44	0.01	0.14	77.00	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

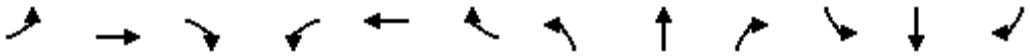
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	469	116	205	1911	63	1461	74
v/c Ratio	0.89	0.43	0.63	0.66	0.50	0.55	0.08
Control Delay	46.7	31.3	51.5	30.6	67.5	21.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	31.3	51.5	30.6	67.5	21.4	2.4
Queue Length 50th (ft)	246	57	82	462	47	271	0
Queue Length 95th (ft)	347	103	m106	463	#108	373	18
Internal Link Dist (ft)	1315	1550		2657		1200	
Turn Bay Length (ft)			300				250
Base Capacity (vph)	653	350	349	2904	130	2679	879
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.33	0.59	0.66	0.48	0.55	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

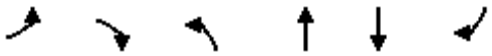


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	680	668	236	496	179	488	1418	264	242	1071	80
v/c Ratio	0.46	0.89	0.82	0.86	0.76	0.41	0.66	0.88	0.34	0.84	0.67	0.14
Control Delay	33.2	37.2	18.1	64.7	27.9	7.4	34.3	24.9	5.9	78.4	47.2	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	37.2	18.1	64.7	27.9	7.4	34.3	24.9	5.9	78.4	47.2	19.0
Queue Length 50th (ft)	74	190	79	96	200	53	171	457	16	102	285	12
Queue Length 95th (ft)	95	285	214	#174	211	83	220	551	69	m#170	370	m57
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	397	793	814	273	763	482	745	1611	773	287	1600	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.86	0.82	0.86	0.65	0.37	0.66	0.88	0.34	0.84	0.67	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

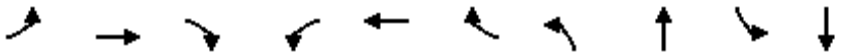


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	83	92	188	2086	1947	25
v/c Ratio	0.53	0.40	0.87	0.71	0.83	0.02
Control Delay	63.3	14.9	67.4	6.6	11.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	14.9	67.4	6.6	11.9	1.0
Queue Length 50th (ft)	62	0	149	172	233	0
Queue Length 95th (ft)	112	49	m#197	207	363	m1
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	251	315	216	2941	2351	1059
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	51	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.29	0.87	0.72	0.83	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	1256	74	126	1098	463	53	274	116	221
v/c Ratio	0.24	0.87	0.10	0.67	0.60	0.45	0.45	0.35	0.61	0.22
Control Delay	61.2	39.8	0.3	62.9	24.6	5.5	64.9	40.4	63.9	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	39.8	0.3	62.9	24.6	5.5	64.9	40.4	63.9	35.4
Queue Length 50th (ft)	16	451	0	75	207	40	40	90	87	70
Queue Length 95th (ft)	44	540	0	m138	273	60	83	141	143	107
Internal Link Dist (ft)		2559			796			434		988
Turn Bay Length (ft)	200					225			150	
Base Capacity (vph)	88	1528	761	208	1846	1047	135	792	253	1015
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.82	0.10	0.61	0.59	0.44	0.39	0.35	0.46	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	179	1071	69	108	967	21	143	140	295
v/c Ratio	0.72	0.79	0.10	0.61	0.81	0.04	0.25	no cap	0.36
Control Delay	58.5	11.5	0.3	54.2	32.8	0.5	22.7		4.8
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0		0.0
Total Delay	58.5	11.5	0.3	54.2	33.3	0.5	22.7	Error	4.8
Queue Length 50th (ft)	103	143	0	74	178	0	56	~226	0
Queue Length 95th (ft)	m133	97	m0	m108	m271	m0	126	#358	64
Internal Link Dist (ft)		796			178		485	340	
Turn Bay Length (ft)	175					375			125
Base Capacity (vph)	328	1695	808	201	1400	684	572	1	812
Starvation Cap Reductn	0	0	0	0	118	0	0	0	0
Spillback Cap Reductn	0	9	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.64	0.09	0.54	0.75	0.03	0.25	140.00	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

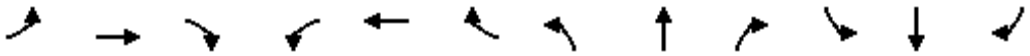
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	482	232	554	2056	63	1972	32
v/c Ratio	0.75	1.02	0.95	0.72	0.54	0.89	0.04
Control Delay	24.2	103.7	71.1	23.3	71.5	38.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	103.7	71.1	23.3	71.5	38.3	0.1
Queue Length 50th (ft)	146	163	234	326	48	520	0
Queue Length 95th (ft)	280	#331	m#310	394	96	594	0
Internal Link Dist (ft)	1315	1550		2657		1200	
Turn Bay Length (ft)			300				250
Base Capacity (vph)	664	238	586	2864	125	2204	740
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.97	0.95	0.72	0.50	0.89	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	195	723	501	457	757	274	501	1636	236	295	1372	102
v/c Ratio	0.76	0.94	0.79	0.92	0.71	0.44	0.94	0.87	0.35	0.91	0.88	0.17
Control Delay	74.5	46.3	20.0	59.4	27.2	9.9	76.6	41.1	12.9	64.0	66.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.5	46.3	20.0	59.4	27.4	9.9	76.6	41.1	12.9	64.0	66.8	10.7
Queue Length 50th (ft)	65	208	176	191	301	103	200	426	52	123	395	11
Queue Length 95th (ft)	#102	#301	173	#286	369	151	#306	492	116	m#157	m445	m17
Internal Link Dist (ft)		144			843			73			2657	
Turn Bay Length (ft)	200		150	600		600	175		100	175		400
Base Capacity (vph)	257	781	638	499	1076	629	533	1885	672	323	1558	607
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	26	0	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.93	0.79	0.92	0.72	0.44	0.94	0.87	0.35	0.91	0.88	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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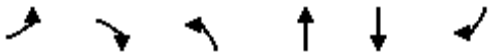
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	108	152	224	2254	2277	35
v/c Ratio	0.50	0.45	1.17	0.83	1.08	0.04
Control Delay	41.8	10.5	153.0	11.0	66.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.5	153.0	11.0	66.3	4.0
Queue Length 50th (ft)	53	0	~139	309	~705	1
Queue Length 95th (ft)	102	50	#292	550	#916	14
Internal Link Dist (ft)	534			1724	179	
Turn Bay Length (ft)						
Base Capacity (vph)	365	463	192	2700	2100	950
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.33	1.17	0.83	1.08	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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95th percentile volume exceeds capacity, queue may be longer.
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