

Gas Station and
Convenience Store
TRAFFIC IMPACT ANALYSIS

CITY OF RIVERSIDE, CALIFORNIA

July 29, 2025

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(0342-0002-02)

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ARLINGTON AT MONROE TRAFFIC IMPACT ANALYSIS

CITY OF RIVERSIDE, CALIFORNIA

1.0 INTRODUCTION

A. Purpose of the TIA and Study Objectives

The purpose of this traffic impact analysis (TIA) is to evaluate the traffic impacts of the proposed Arlington at Monroe development. The project is proposed to be developed with a convenience store (4770 sf) with 12 vehicle fueling positions. The site is located on the southeast corner of Arlington and Monroe in the City of Riverside.

Study objectives include the following:

Existing (2025) Traffic. Existing traffic will be counted to determine current conditions. This constitutes the environmental setting for a CEQA analysis at the time that the hearing body reviews the project. Traffic count data shall be new or recent. In some cases, data up to one year old may be acceptable with the approval of the City of Riverside Engineering Department. Any exception to this must be requested prior to approval of the scoping agreement

Existing (2025) Plus Project Traffic. Traffic generated by the proposed project will be added to existing traffic counts to identify and analyze impacts on the circulation system. This analysis has been conducted based on the CEQA requirements for evaluating direct project related impacts.

Existing + Ambient + Cumulative (EAC 2026). Traffic generated by other approved projects (or projects that are proposed and in the review process, but not yet fully approved) in the study area shall be identified and added to the baseline future conditions without the traffic due to the proposed project. This “no project” scenario will be analyzed, and a determination made if improvements funded through an approved funding mechanism (TUMF, DIF, CFD, RBBD etc.) can accommodate the cumulative traffic at the target Level of Service (LOS) identified in the General Plan. If the “funded” improvements can provide the target LOS, payment into the fee program will be considered as cumulative mitigation through the conditions of approval. Other improvements needed beyond the “funded” improvements (such as localized improvements to non-TUMF facilities) should be identified as such.

Existing + Ambient + Cumulative + Project (EACP 2026). Traffic generated by the proposed project shall be added to the EAC or “no project” condition identified above.

Impacts identified beyond those required to address the “no project” conditions shall be considered direct impacts by the project and shall be the responsibility of the project.

Cumulative Horizon 2045. Horizon Year 2045 conditions have been developed based on applying an ambient growth rate to reflect traffic/land use increases between 2025 and 2045.

Cumulative Horizon 2045 with Project. The project traffic has been added to year Horizon Year 2045 conditions to identify potential long range project impacts.

B. Site Location and Study Area

The project site is generally located on the southeast corner of Arlington and Monroe in the City of Riverside. Figure 1-A illustrates the site location and the traffic analysis study area.

In general, the study area shall include any intersection of Collector or higher classification street with another Collector roadway or higher classification street, at which the proposed project will add 50 or more peak hour trips. Pursuant to the attached scoping agreement (see Appendix “A”) and discussions with City of Riverside staff, the study area include the following existing and future intersections:

STUDY AREA INTERSECTIONS	
1.	Monroe Street/Arlington Avenue
2.	N. Project Driveway/Arlington Avenue
3.	Monroe Street/W. Project Driveway
4.	Monroe Street/Pembroke Avenue

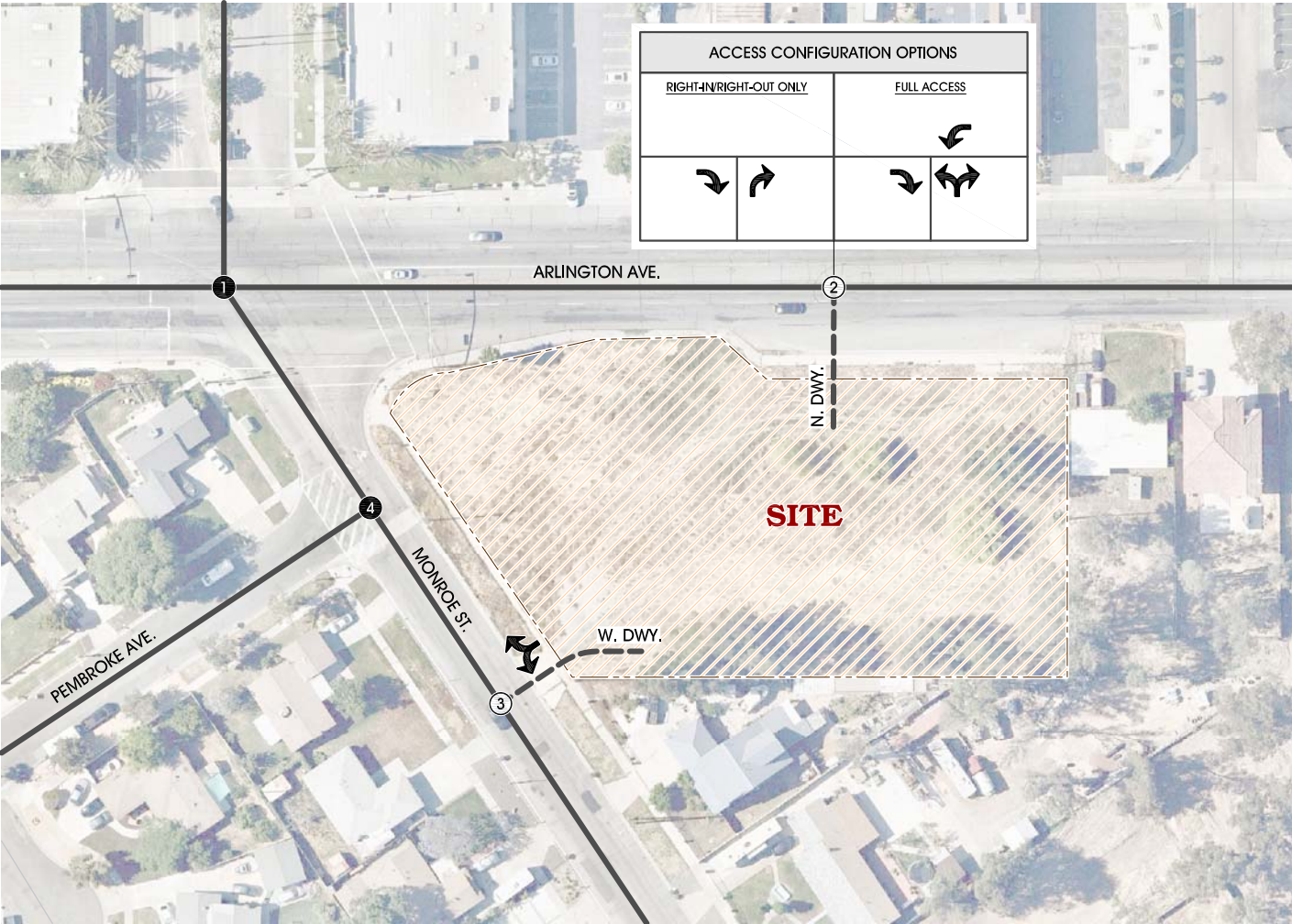
It should be noted that per DRC meeting, there will be a future median improvement project on the east side of Monroe Street/Arlington Avenue intersection and may be impacted for the N. Project Driveway located along Arlington Avenue. Therefore, in addition to the full access configuration at the N. Project Driveway, an alternative right-in/right-out (RIRO) access configuration is also evaluated with the future median improvements along Arlington Avenue.

C. Development Project Identification

1. Project Size and Description

The Arlington at Monroe project is proposed to be developed with a convenience store (4770 sf) with 12 vehicle fueling positions. It is anticipated that the project will be built by 2026.

FIGURE 1-A STUDY AREA



LEGEND:

- ② = EXISTING INTERSECTION ANALYSIS LOCATION
- ① = FUTURE INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY / PROJECT DRIVEWAY



2. Existing Land Use

The project site is currently vacant and does not generate a significant amount of vehicular traffic. Adjacent uses include the following:

- North – Commercial/Manufacturing
- South – Residential
- East – Residential
- West – Residential

3. Proposed Land Use

Proposed Land Use: Commercial Retail

4. Site Plan of Proposed Project

Figure 1-B illustrates the conceptual site plan. The project is proposed to have one full access along Arlington Avenue and one full access along Monroe Street.

As mentioned previously, for the N. Project Driveway along Arlington Avenue, an alternative right-in/right-out only (RIRO) access configuration is also evaluated.

5. Proposed Project Opening Year

The proposed project is anticipated to be completed in 2026. Future traffic analysis has been based upon two year of background (ambient) growth, at 2% per year, along with traffic generated by other future developments in the surrounding area.

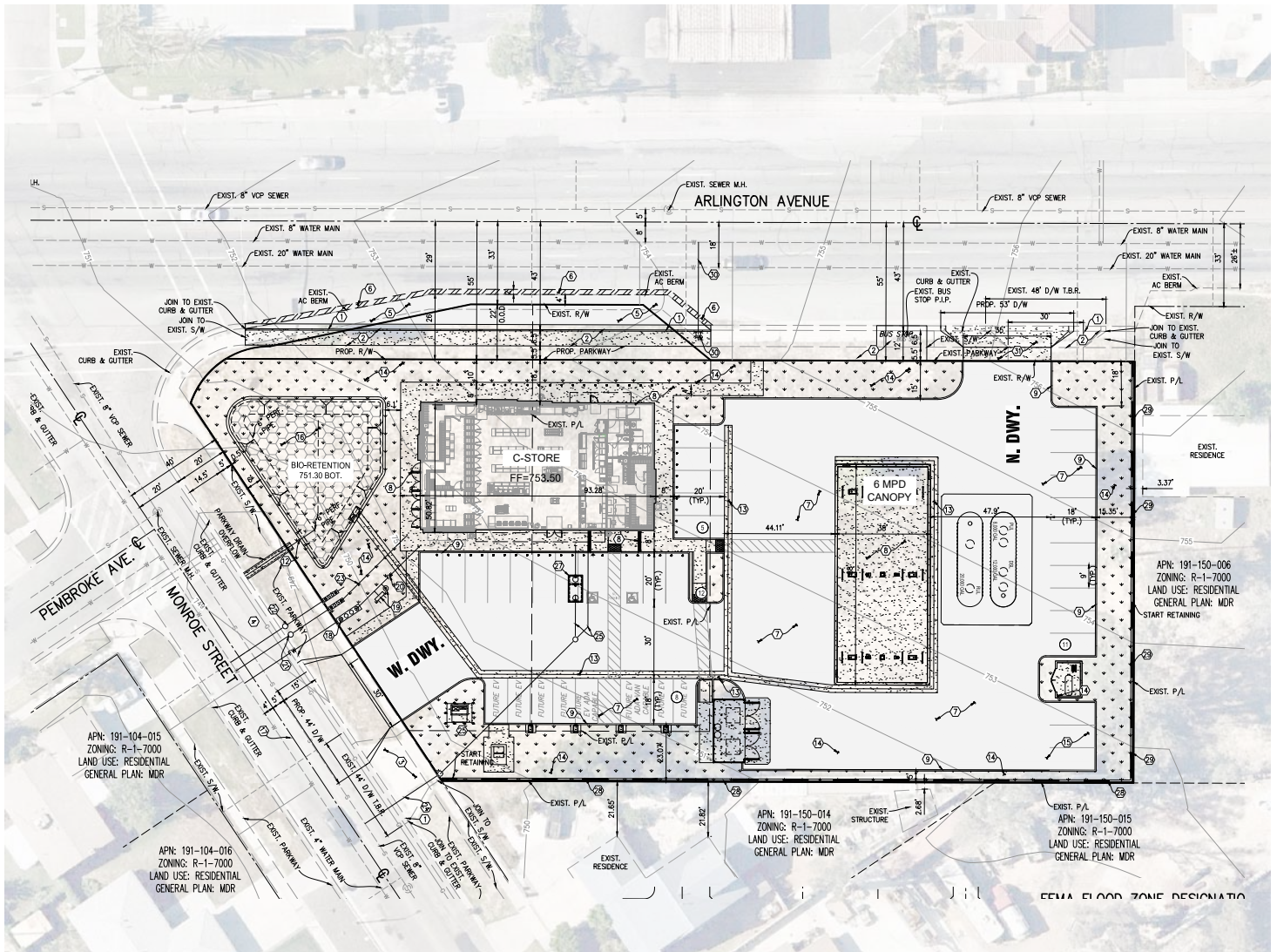
6. Proposed Project Phasing

The project is expected to be completed in a single phase. Therefore, all traffic recommendations included in this report have not been separated into different development phases.

7. Sphere of Influence

The project is located within the Sphere of Influence of the City of Riverside. The project is anticipated to mainly serve the adjacent community.

FIGURE 1-B SITE PLAN



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2.0 AREA CONDITIONS

A. Study Area and Intersections

In general, the minimum area to be studied shall include any intersection of “Collector” or higher classification street, with “Collector” or higher classification streets, at which the proposed project will add 50 or more peak hour trips. The City of Riverside Engineering Department may require deviation from these requirements based on area conditions. The study area includes the following existing intersections (shown previously on Figure 1-A):

STUDY AREA INTERSECTIONS	
1.	Monroe Street/Arlington Avenue
2.	N. Project Driveway/Arlington Avenue
3.	Monroe Street/W. Project Driveway
4.	Monroe Street/Pembroke Avenue

B. Area Roadway System

Figure 2-A identifies the existing roadway conditions for study area roadways. The existing intersection traffic controls and geometrics are identified.

C. General Plan Circulation Element

The City of Riverside Master Plan of Roadways is depicted on Figure 2-B. Figure 2-B also illustrates the City of Riverside Roadway Cross-Sections.

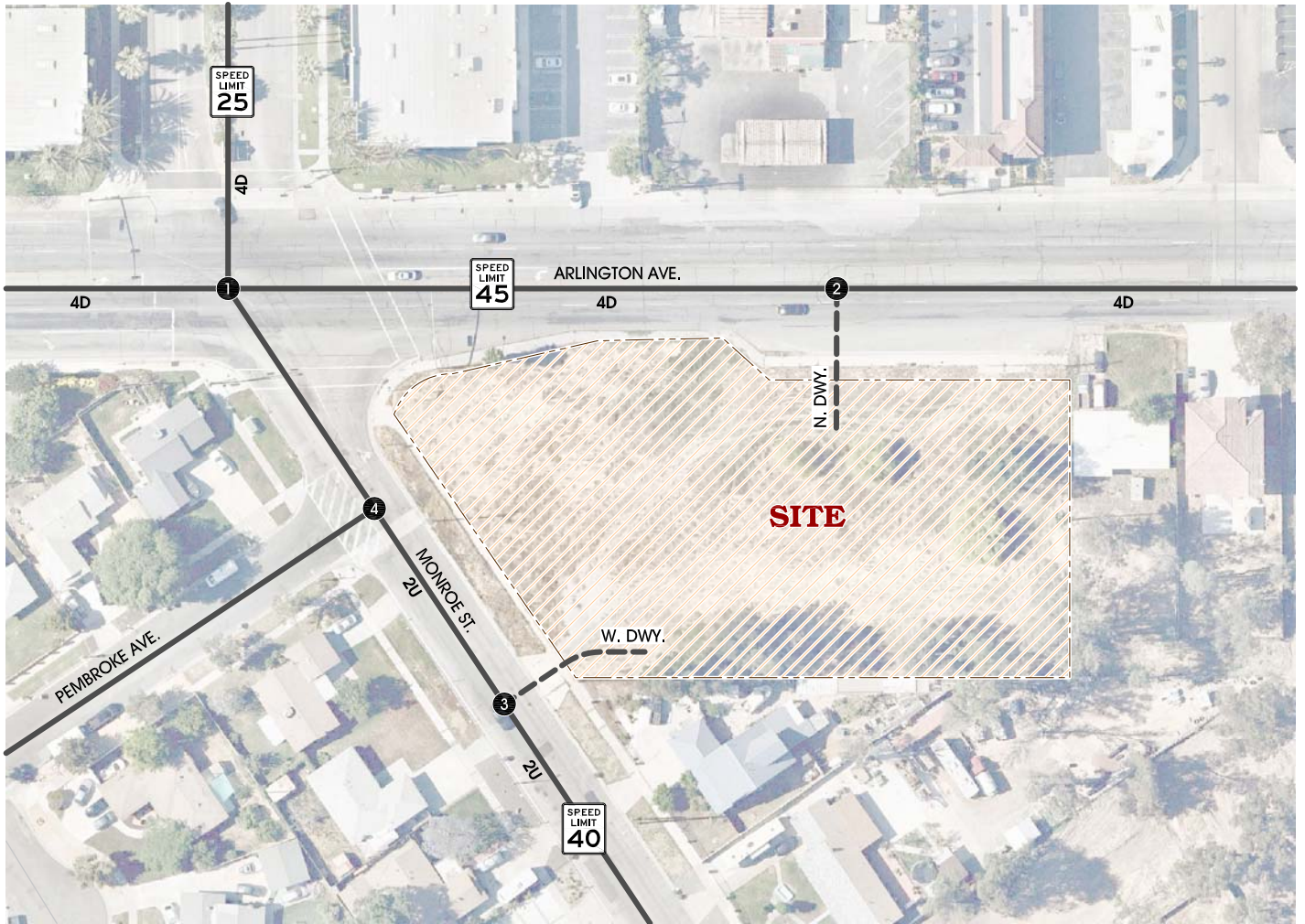
D. Existing (2025) Traffic Volumes

Existing intersection level of service calculations are based upon manual AM and PM peak hour turning movement counts conducted in February 2025 and March 2025. Existing AM and PM peak hour intersection turning movements are shown on Figure 2-C. The traffic count worksheets are included in Appendix "B".

E. Existing Delay and Level of Service

The City of Riverside has established a Level of Service (LOS) “D” as the maximum acceptable threshold for the study intersections and roadways of Collector or higher classification. LOS “C” is to be maintained on all street intersections. For projects in conformance with the General Plan, a significant impact occurs at a study intersection when the peak hour LOS falls below “C”, or “D” per CCM-2.3 as noted below.

FIGURE 2-A EXISTING TRAFFIC CONTROLS AND INTERSECTION GEOMETRICS

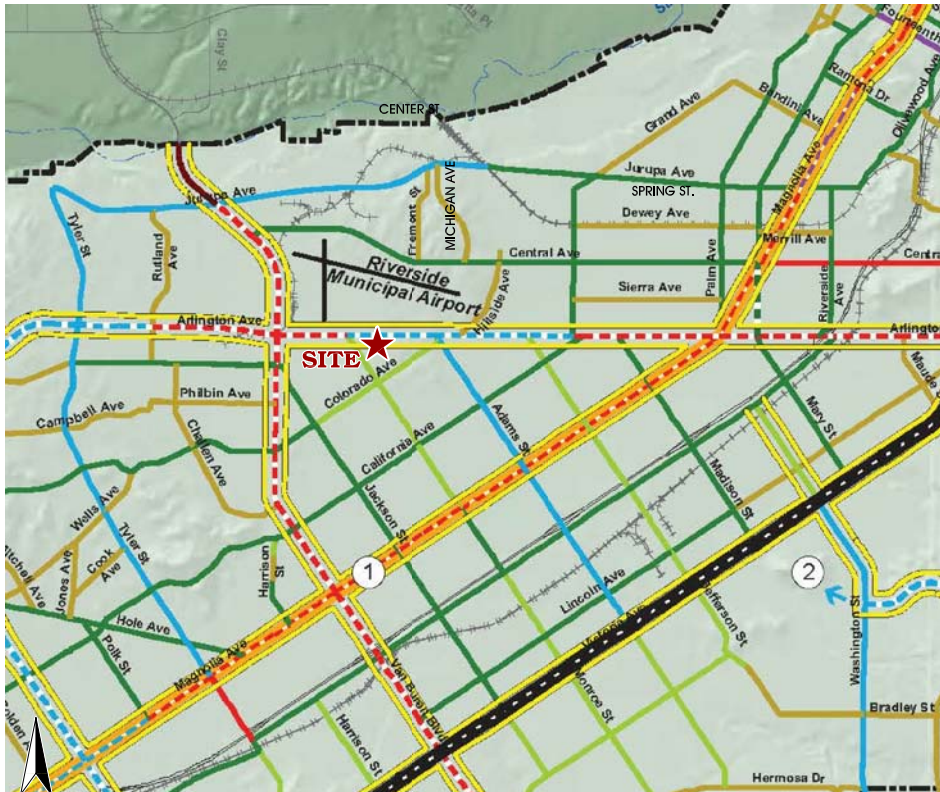


1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.
	<p>FUTURE INTERSECTION</p>	<p>FUTURE INTERSECTION</p>	

- LEGEND:**
- = INTERSECTION ID
 - = TRAFFIC SIGNAL
 - = STOP SIGN
 - DEF = DEFACTO RIGHT TURN LANE
 - 4 = NUMBER OF LANES
 - D = DIVIDED
 - U = UNDIVIDED



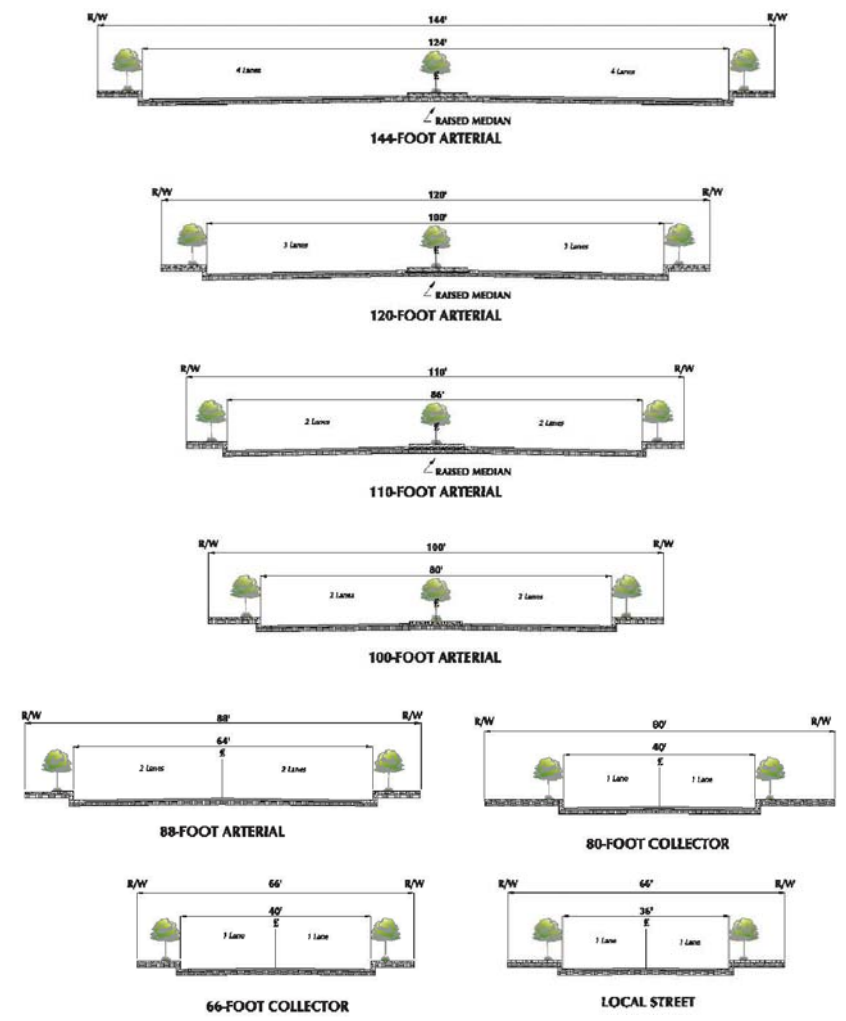
FIGURE 2-B CITY OF RIVERSIDE MASTER PLAN OF ROADWAYS AND STANDARD ROADWAY CROSS-SECTIONS



LEGEND	<ul style="list-style-type: none"> 66 FT LOCAL 2 LANES * 66 FT COLLECTOR 2 LANES 80 FT COLLECTOR 2 LANES 88 FT ARTERIAL 4 LANES 100 FT ARTERIAL 4 LANES 110 FT ARTERIAL 4 LANES 120 FT ARTERIAL 6 LANES 144 FT ARTERIAL 8 LANES 	<ul style="list-style-type: none"> SCENIC BOULEVARD REQUIRES SPECIAL LANDSCAPING. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED. SPECIAL BOULEVARD TWO-LANE DIVIDED ROADWAY OF VARIABLE GEOMETRIC DESIGN. SPECIAL BOULEVARD VARIABLE WIDTHS AND DESIGN. CONTACT PUBLIC WORKS FOR DETAIL. SEE OBJECTIVE COM-3 AND POLICIES COM-3.1 THROUGH COM-3.5. PARKWAYS FOR INFORMATION ON PARKWAYS SEE LAND USE ELEMENT. CETAP CORRIDOR AREA CORRIDOR OPTIONS SUBJECT TO SPECIAL STUDY. RIVERSIDE CITY BOUNDARY RIVERSIDE PROPOSED SPHERE OF INFLUENCE
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- NOTE:**
- * LOCAL STREETS ARE NOT SHOWN ON THIS PLAN EXCEPT WHERE NEEDED FOR CLARITY.
 - ① MAGNOLIA AVENUE SHALL BE A SPECIAL BLVD. WITH 4 LANES EASTERLY OF HARRISON STREET.
 - ② OVERLOOK PARKWAY SHALL BE A 2-LANE, 110-FOOT ARTERIAL WITH A WIDE MEDIAN PARKWAY. THE ALIGNMENT OF OVERLOOK PARKWAY WESTERLY OF WASHINGTON IS NOT YET DETERMINED PENDING PREPARATION OF SPECIFIC PLAN LEVEL STUDY.
 - ③ COLUMBIA AVENUE IS SHOWN BY HUNTER BUSINESS PARK SPECIFIC PLAN AS A 134-FOOT ARTERIAL. ACTUAL STREET WIDTH, DUE TO RAILROAD OVERCROSSING, WILL BE DETERMINED BY PUBLIC WORKS.
 - ④ THESE STREETS SHALL BE 66-FOOT LOCAL ROADWAYS SERVING AS ALTERNATE ROUTES.
 - ⑤ THE STREETS IN SYCAMORE CANYON BUSINESS PARK SPECIFIC PLAN VARY IN SIZE. SEE THE SPECIFIC PLAN FOR DETAILS.

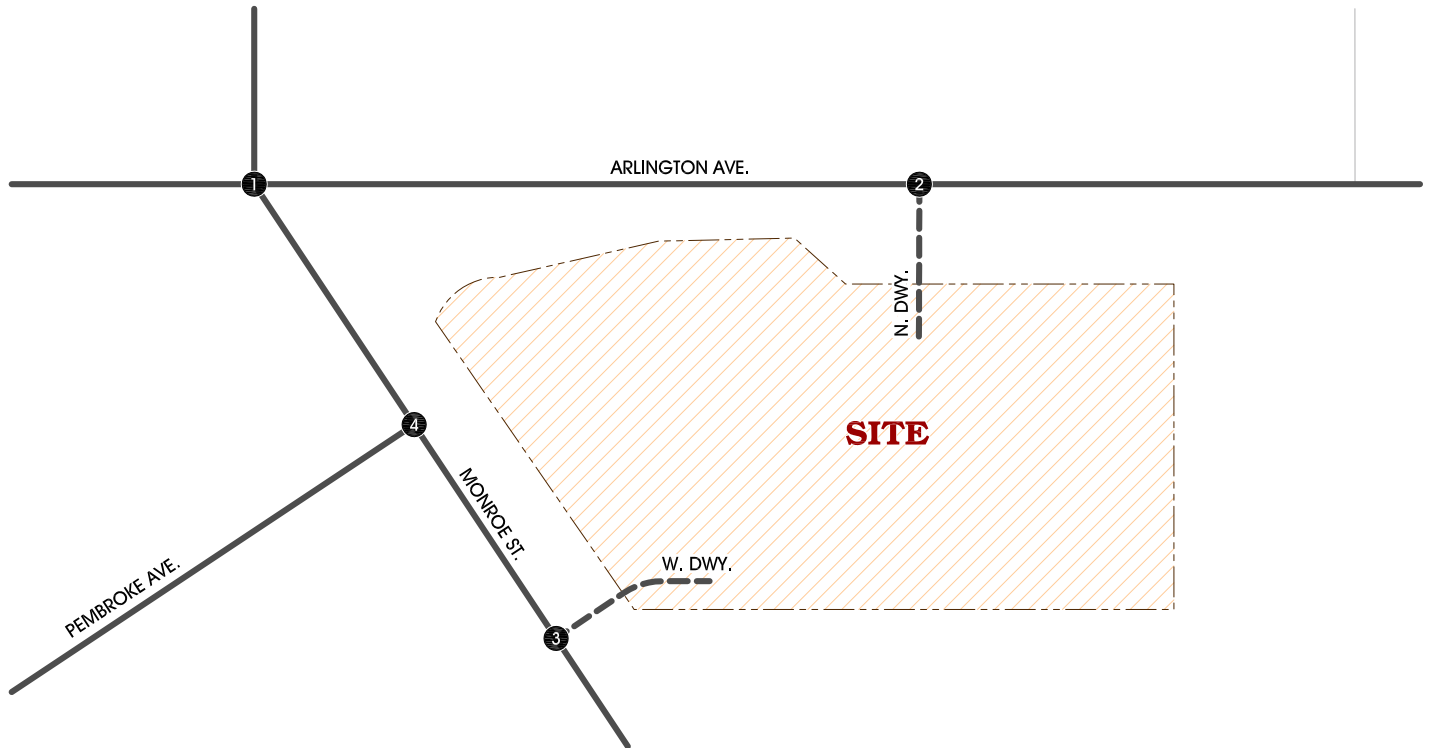
STREET CLASSIFICATION CROSS-SECTIONS



NOTE: FOR PARKWAY CROSS SECTION STANDARDS, CONSULT THE PUBLIC WORKS DEPARTMENT.

SOURCE: CITY OF RIVERSIDE

FIGURE 2-C EXISTING (2025) TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																				
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22 ↓	5 ↓																						

LEGEND:

④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																								
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For projects that propose uses or intensities above that contained in the General Plan, a significant impact at a study intersection is when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS “A” thru “D”) to unacceptable levels (“E” or “F”) or the peak hour delay to increase as follows:

- LOS A/B = By 10.0 seconds
- LOS C = By 8.0 seconds
- LOS D = By 5.0 seconds
- LOS E = By 2.0 seconds
- LOS F = By 1.0 seconds

Policy CCM-2.3

Maintain LOS “D” or better on Arterial Streets whenever possible. At key locations, such as City Arterials that are used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS “E” at peak hours as the acceptable standard on a case-by-case basis.

Operations Analysis Methodology

The City of Riverside Engineering Department requires the use of the Transportation Research Board - Highway Capacity Manual (HCM), 6th Edition. The levels of service for the HCM delay methodology, for signalized and unsignalized intersections, are summarized below:

LEVEL OF SERVICE	AVERAGE TOTAL DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

The results of the existing conditions intersection analysis are summarized in Table 2-1. The existing condition operations analysis worksheets are provided in Appendix "C". As shown in Table 2-1, the study area intersections are operating at an acceptable level of service (LOS “D” or better during the peak hours with the existing geometry and traffic controls.

TABLE 2-1

INTERSECTION ANALYSIS FOR EXISTING (2025) CONDITIONS

ID	Intersection	Traffic Control ¹	Intersection Approach Lanes ²												Delay ³ (secs.)		Level of Service ³	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	
1	Monroe St. / Arlington Ave.	TS	1	1	0	1	1	0	1	2	1	1	2	d	29.9	28.8	C	C
2	N. Dwy. / Arlington Ave.	-	Future Intersection												-	-	-	-
3	Monroe St. / W. Dwy.	-	Future Intersection												-	-	-	-
4	Monroe St. / Pembroke Ave.	CSS	0.5	0.5	0	0	1	0	0	1!	0	0	0	0	13.5	13.2	B	B

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to turn outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane; d = Defacto right turn lane

³ Delay and level of service calculated using the following analysis software: Synchro 11 HCM6

F. Traffic Signal Warrant Analysis

The study area intersection of Monroe St./Arlington Ave. is controlled with a traffic signal. Therefore, warrants were not conducted for this location. The proposed driveways are too close to the intersection of Monroe St./Arlington Ave. to allow the construction of a traffic signal.

G. Transit Service

The Riverside Transit Agency (RTA) Routes 13 and 15 currently services the study area.

The applicant has discussed the relocation of the existing bus stop with RTA. RTA has indicated that they will be responsible for relocating the bus stop along with associated improvements. Appendix N includes the RTA route maps.

H. VMT Evaluation

Due to the passage of Senate Bill 743 (SB 743), CEQA Guidelines (Section 15064.3) require the use of vehicle miles traveled (VMT) as the metric for transportation analysis rather than level of service (LOS). This approach will take effect on July 1, 2020. The City of Riverside has developed draft guidelines for screening projects.

A local serving retail project less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. Since the project will consist of approximately 4,770 sf of building area and is intended to serve the adjacent community, a less than significant impact can be determined from a vehicle miles perspective.

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3.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area.

A. Project Traffic

1. Ambient Growth Rate

Some traffic volume increases on roadways can be attributed to vehicles originating outside of the study area. These types of trips either end up within the study area or pass-through onto an outside destination. Therefore, to account for these trips (termed “ambient growth”), a growth rate can be applied to existing traffic volumes.

An annual ambient growth rate of 2% per year has been used in this study to account for traffic not attributed to the project or other planned developments within the study area.

2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land use which has been planned for this development. For the purpose of this analysis, the following land use assumption is evaluated:

- Convenience Market with 12 vehicle fueling positions

Trip generation rates for the proposed development are shown in Table 3-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE), 11th Edition.

The daily and peak hour trip generations for the proposed project are shown on Table 3-2. The proposed development is projected to generate a total of approximately 771 net trip-ends per day with 78 net vehicle trips per hour during the AM peak hour and 68 net vehicle trips per hour during the PM peak hour. Since the amount of peak hour project trips falls between 100 and 200 peak hour trips and the project requires a zone change and a General Plan Amendment (GPA), the City has requested a focused analysis for this project in accordance with the City's Guidelines.

**TABLE 3-1
PROJECT TRIP GENERATION RATES¹**

Land Use	ITE Code	Quantity ²	Peak Hour Trip Rates						Daily
			AM			PM			
			IN	OUT	Total	IN	OUT	Total	
Convenience Store/Gas Station - GFA (4-5.5k)	945	12 VFP	13.52	13.52	27.04	11.38	11.38	22.76	257.13

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² VFP = Vehicle Fueling Position

**TABLE 3-2
PROJECT TRIP GENERATION SUMMARY**

Land Use	ITE Code	Quantity ¹	Peak Hour						Daily
			AM			PM			
			In	Out	Total	In	Out	Total	
Convenience Store/Gas Station - GFA (4-5.5k)	945	12 VFP	162	162	324	137	137	274	3,086
- Pass by Reduction (76%-AM, 75%-PM, 75%-ADT)			-123	-123	-246	-103	-103	-206	-2,315
TOTAL NEW TRIPS			39	39	78	34	34	68	771

¹ VFP = Vehicle Fueling Position

3. Project Trip Distribution and Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. The project's trip distribution patterns are based on the proximity of the residential neighborhoods to the proposed driveway locations. The trip distribution patterns for the project are illustrated on Figure 3-A based on the two potential configuration of the N. Project Driveway (full access and RIRO) along Arlington Avenue.

4. Other Trip Generation Factors

The project consists of commercial uses that generate a significant amount of pass-by trips. Pass-by trips are not new trips but those that are already on the roadway system but are anticipated to "pass-by" the project on their way to a primary destination.

5. Project Peak Hour Turning Movement Traffic

The assignment of traffic from the site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, proposed arterial highway and local street systems, which would be in place by the time of initial occupancy of the site. Based on the identified project traffic generation and distribution, project peak hour intersection traffic volumes and average daily traffic (ADT) volumes with full access configuration at the N. Project Driveway are shown on Figure 3-B. Figure 3-C illustrates the project traffic volumes with the N. Project Driveway restricted to a right-in/right-out only access.

B. Existing Plus Project Traffic Conditions

Existing plus Project (EP) AM and PM peak hour intersection turning movement volumes with full access configuration at the N. Project Driveway are shown on Figure 3-D.

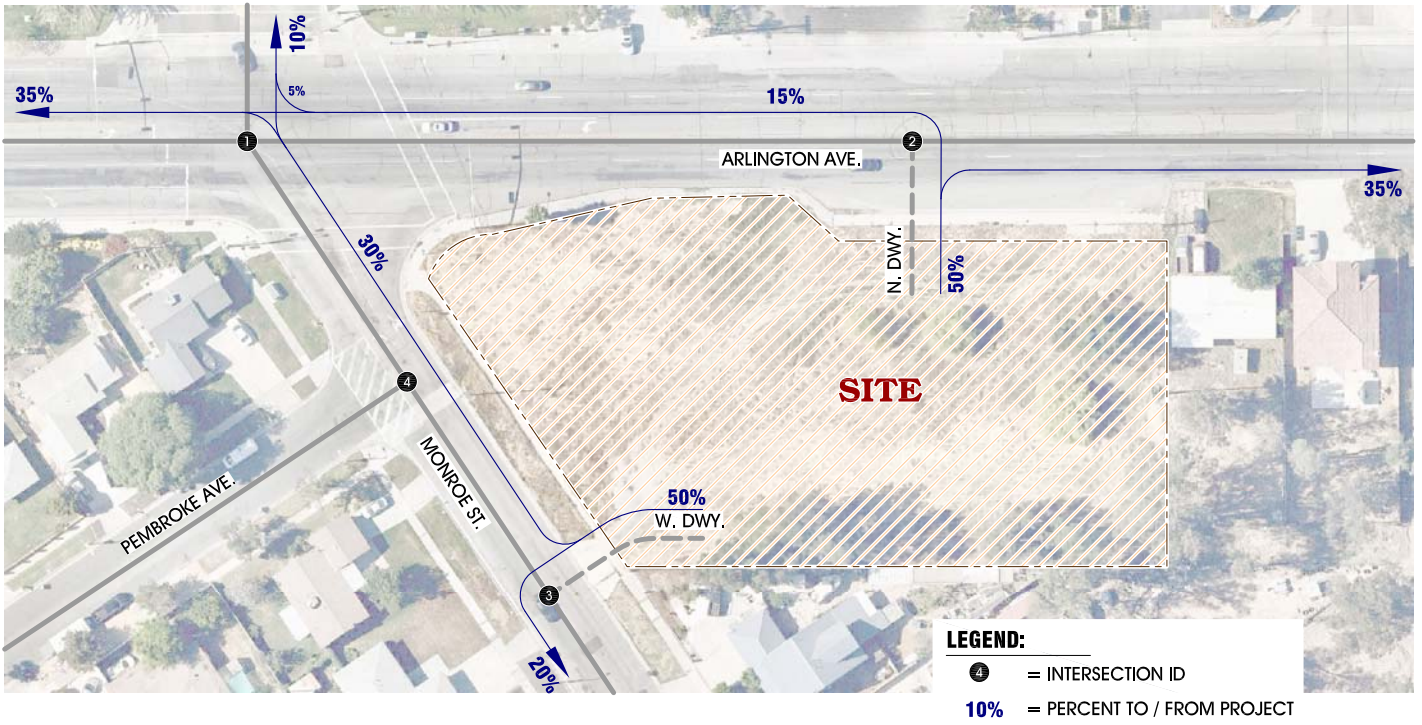
Existing plus Project (EP) AM and PM peak hour intersection turning movement volumes with RIRO access configuration at the N. Project Driveway are shown on Figure 3-E.

For access purposes, the driveway intersections have been evaluated as a stop controlled intersections.

The intersection analysis results of the EP conditions are summarized in Table 3-3. As shown on Table 3-3, the study area intersections with either a full access configuration or RIRO restriction at the N. Project Driveway are anticipated to continue to operate at

FIGURE 3-A PROJECT TRIP DISTRIBUTION

N. DWY. FULL ACCESS TRIP DISTRIBUTION:



N. DWY. RIGHT-IN/RIGHT OUT ONLY TRIP DISTRIBUTION:

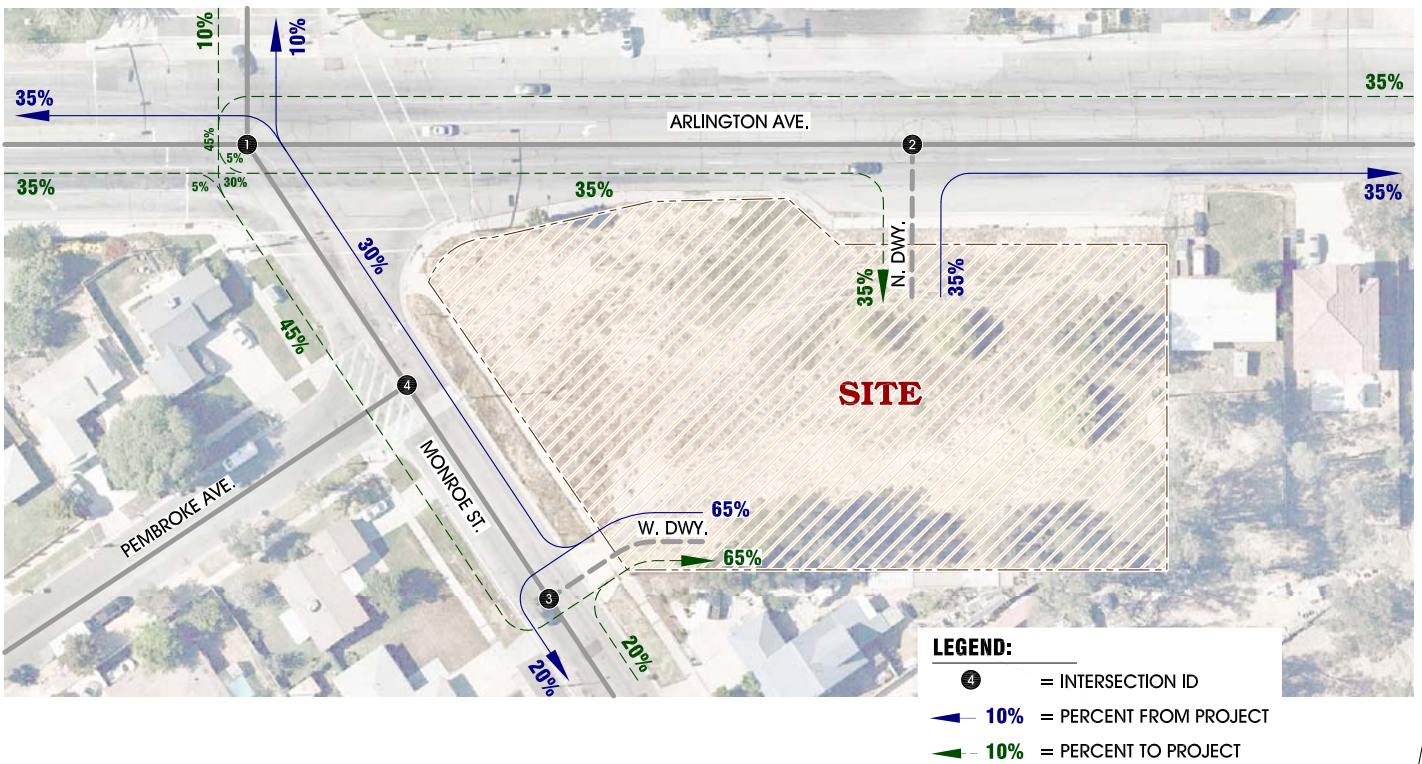
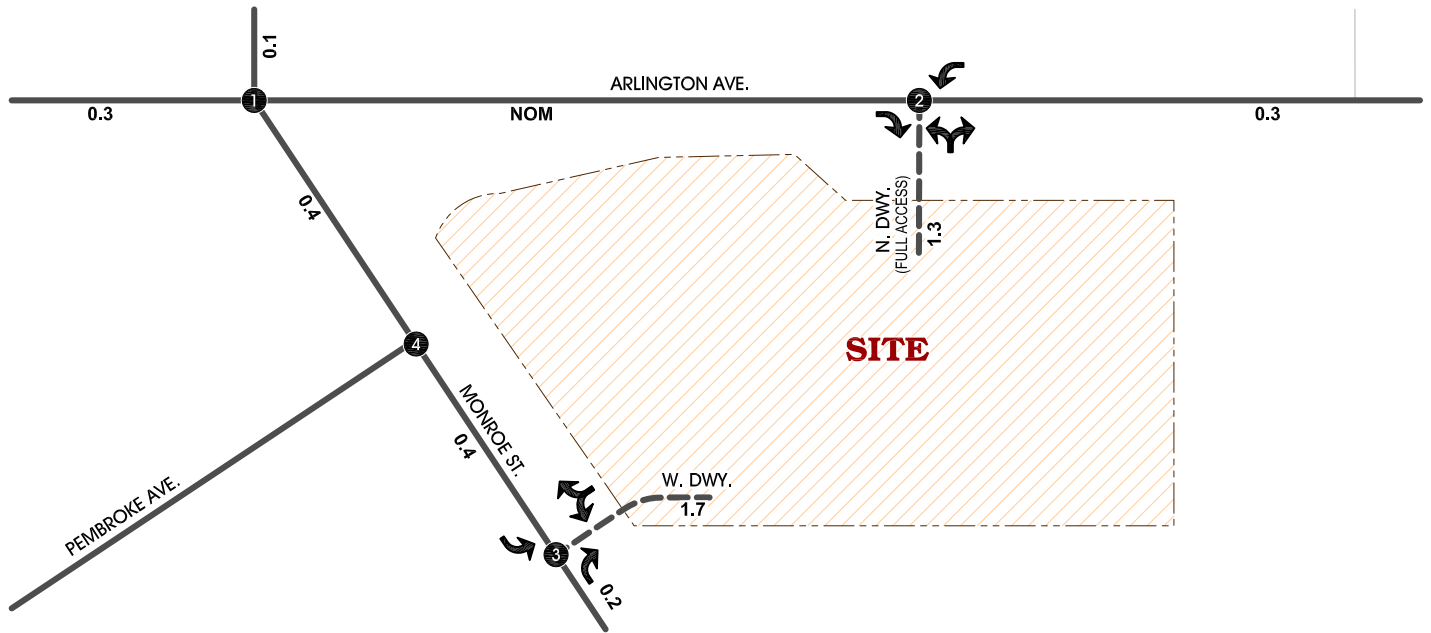


FIGURE 3-B PROJECT ONLY & PASS-BY TRAFFIC VOLUMES (WITH FULL ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR - PROJECT ONLY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
↖0 ↔2 ↘2	↖2 ↔4 ↘0	↖0 ↔14 ↘0	
↖0 ↔4 ↘10	↖10 ↔2 ↘0	↖0 ↔6 ↘14	
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖0 ↔12 ↘0	↖12 ↔8 ↘8	↖0 ↔0 ↘0	↖0 ↔12 ↘12

AM PEAK HOUR - PROJECT PASS-BY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
↖0 ↔0 ↘0	↖0 ↔22 ↘0	↖0 ↔43 ↘43	
↖0 ↔0 ↘0	↖22 ↔0 ↘0	↖-18 ↔18 ↘21	↖18 ↔18 ↘18
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖-37 ↔37 ↘0	↖47 ↔37 ↘25	↖0 ↔0 ↘0	↖0 ↔0 ↘22

PM PEAK HOUR - PROJECT ONLY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
↖0 ↔2 ↘2	↖2 ↔3 ↘0	↖0 ↔12 ↘0	
↖0 ↔3 ↘8	↖8 ↔2 ↘0	↖0 ↔5 ↘12	
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖0 ↔10 ↘0	↖10 ↔7 ↘7	↖0 ↔0 ↘0	↖0 ↔10 ↘10

PM PEAK HOUR - PROJECT PASS-BY

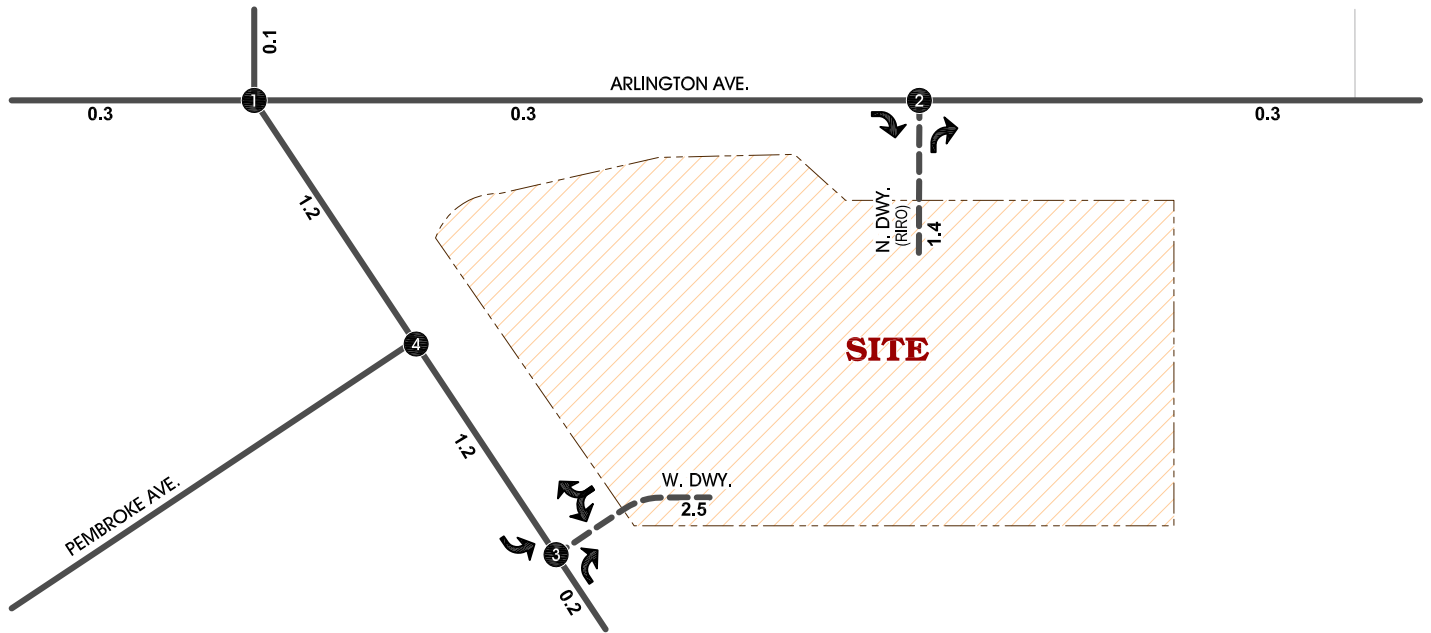
1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
↖0 ↔0 ↘0	↖0 ↔18 ↘0	↖0 ↔36 ↘36	
↖0 ↔0 ↘0	↖18 ↔0 ↘0	↖-15 ↔15 ↘18	↖15 ↔15 ↘15
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖-31 ↔31 ↘0	↖39 ↔31 ↘21	↖0 ↔0 ↘0	↖0 ↔18 ↘18

LEGEND:

- 4 = INTERSECTION ID
- ↖10 = PEAK HOUR TURN VOLUME
- 10.0 = VEHICLES PER DAY (1000'S)
- NOM = NOMINAL, LESS THAN 50 VEHICLES



FIGURE 3-C PROJECT ONLY & PASS-BY TRAFFIC VOLUMES (WITH RIGHT-IN/RIGHT-OUT ONLY ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR - PROJECT ONLY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
0 2 2	0 0 14	14	
0 12 2	14 4 0	0 14	14
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
0 18	18 8 0	0 18	0 18
0 0 0	0 8	0 0	0 18

AM PEAK HOUR - PROJECT PASS-BY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
0 0 0	0 43 43	0	
0 0 0	43 0 0	-18 +18	+18
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
-37 +80	68 37	0 43	0 43
-25 +25	0 0	0 0	0 43

LEGEND:

- 4 = INTERSECTION ID
- ↖10 = PEAK HOUR TURN VOLUME
- 10.0 = VEHICLES PER DAY (1000'S)

PM PEAK HOUR - PROJECT ONLY

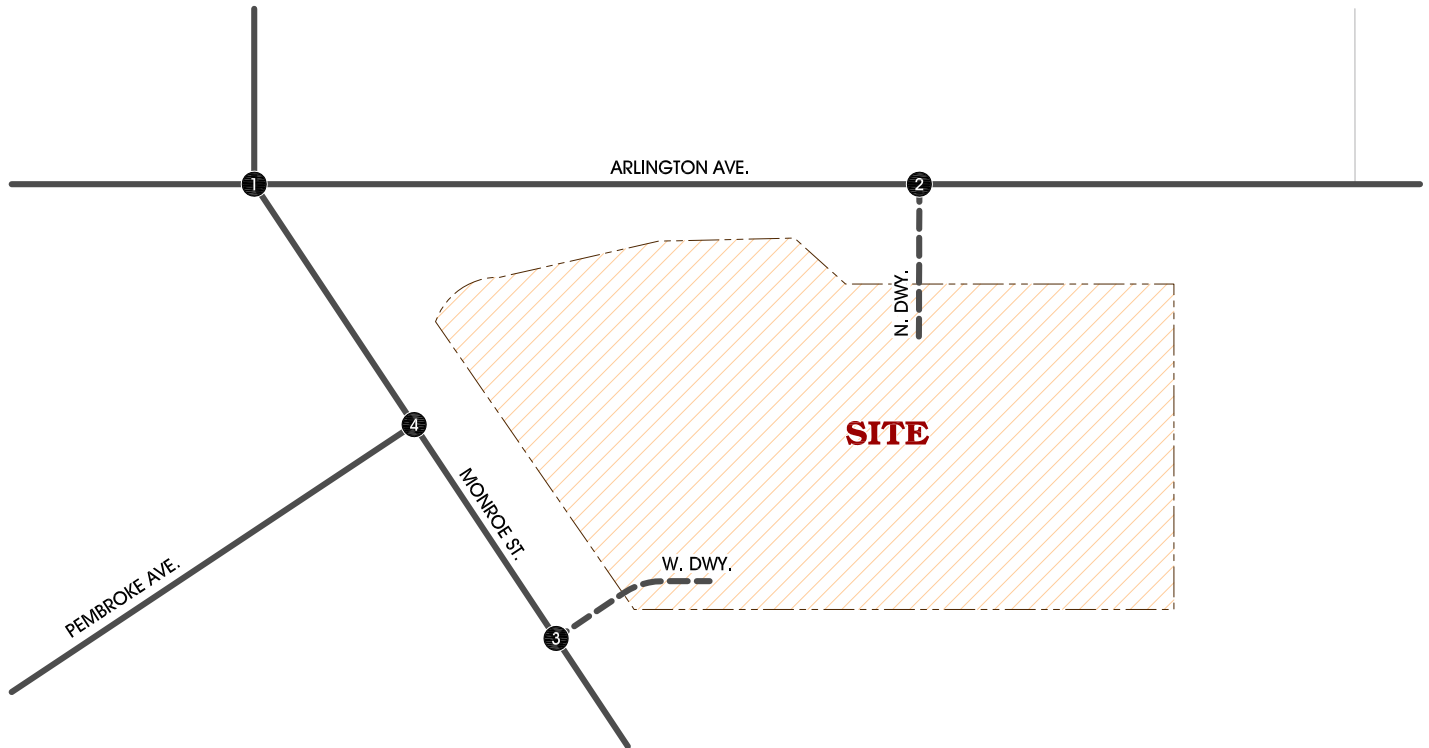
1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
0 2 2	0 0 12	12	
0 10 2	12 3 0	0 12	12
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
0 15	15 7 0	0 15	0 15
0 0 0	0 7	0 0	0 15

PM PEAK HOUR - PROJECT PASS-BY

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.	
0 0 0	0 36 36	0	
0 0 0	36 0 0	-52 +52	+52
3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
-31 +67	57 31	0 36	0 36
-21 +21	0 0	0 0	0 36



FIGURE 3-D EXISTING PLUS PROJECT TRAFFIC VOLUMES (WITH FULL ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖8	↗13	↖58	↗728	↖195	↗49	↖4	↗239
↖13	↗16	↖798	↗57	↖59	↗45	↖22	↗5
↖39						↖4	↗400
↖50	↗270	↖858	↗24	↖345	↗33	↖22	↗5
↖762	↗49	↖27	↗32	↖4	↗400		
↖191	↗104						

LEGEND:

④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖44	↗35	↖33	↗888	↖313	↗41	↖27	↗351
↖35	↗77	↖985	↗48	↖49	↗38	↖15	↗3
↖87						↖6	↗246
↖12	↗195	↖1013	↗20	↖203	↗28	↖15	↗3
↖898	↗8	↖23	↗27	↖4	↗400		
↖256	↗58						



FIGURE 3-E EXISTING PLUS PROJECT TRAFFIC VOLUMES (WITH RIGHT-IN/RIGHT-OUT ONLY ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.

LEGEND:

4 = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.



TABLE 3-3

INTERSECTION ANALYSIS FOR
EXISTING PLUS PROJECT CONDITIONS

ID	Intersection	Traffic Control ¹	Intersection Approach Lanes ²												EXISTING CONDITIONS				E+P CONDITIONS								CHANGE IN DELAY ⁶						
			Northbound			Southbound			Eastbound			Westbound			Delay ³ (secs.)		Level of Service ³		With Full Access ⁴				With RIRO ⁵				w/ Full Access ⁴		With RIRO ⁵		Improvement Required?	Delay ³ (secs.)	Improvement Required?
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM					
1	Monroe St. / Arlington Ave.	TS	1	1	0	1	1	0	1	2	1	1	2	d	29.9	28.8	C	C	32.5	34.3	C	C	35.0	36.3	D	D	2.6	5.5	NO	5.1	7.5	NO	
2	N. Dwy. / Arlington Ave.	CSS	0	<u>1!</u>	0	0	0	0	0	2	<u>1</u>	1*	2	0	--	--	--	--	18.6	20.7	C	C	--	--	--	--	--	--	--	--	--	--	--
	- Full Access		0	0	<u>1</u>	0	0	0	0	2	<u>1</u>	0	2	0	--	--	--	--	--	--	--	--	12.3	14.1	B	B	--	--	--	--	--	--	--
3	Monroe St. / W. Dwy.	CSS	0	1	d	0.5	0.5	0	0	0	0	0	<u>1!</u>	0	--	--	--	--	14.1	12.5	B	B	15.5	13.1	C	B	--	--	--	--	--	--	--
4	Monroe St. / Pembroke Ave.	CSS	0.5	0.5	0	0	1!	0	0	0	0	0	0	0	13.5	13.2	B	B	14.1	13.6	B	B	15.2	14.5	C	B	0.6	0.4	NO	1.7	1.3	NO	

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane; d = Defacto right turn lane;

* = Left Turn Within Two Way Left Turn Lane (TWLTL) median; 1 = Improvement

³ Delay and level of service calculated using the following analysis software: Synchro 11 HCM6

⁴ Project North Driveway with no turn restrictions, full access.

⁵ Project North Driveway restricted to right-in/right-out only (RIRO) access.

⁶ Project related deficiency criteria for Projects not consistent with General Plan:

Operational improvements are required when the addition of Project related rips causes either peak hour LOS to degrade from acceptable LOS (A through D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:

LOS A/B = 10 seconds; LOS C = 8 seconds; LOS D = 6 seconds; LOS E = 2 seconds; and LOS F = 1 second.

an acceptable LOS (LOS "D" or better) during the peak hours with the existing geometry and traffic controls.

The EP condition operations analysis worksheets with full access configuration at the N. Project Driveway are provided in Appendix "D". The EP condition operations analysis worksheets with RIRO restriction at the N. Project Driveway are provided in Appendix "E".

C. Cumulative Traffic (Background)

To assess existing plus ambient plus cumulative plus project traffic conditions, project traffic is combined with existing traffic, area-wide growth and other future developments which are approved or being processed concurrently in the study area. Developments which are being processed concurrently in the study area have been provided by City staff.

1. Ambient Growth Rate

An ambient growth rate (2% growth per year) has been used in this study to account for traffic not attributed to the project or other planned developments within the study area. The City of Riverside Transportation Department staff has previously reviewed and approved this rate.

2. Other Approved or Proposed Development Projects

The cumulative developments have been included along with the land use associated with each project. The location of the cumulative projects provided by the county and nearby jurisdictions are shown on Figure 3-F.

3. Other Approved Projects Trip Generation

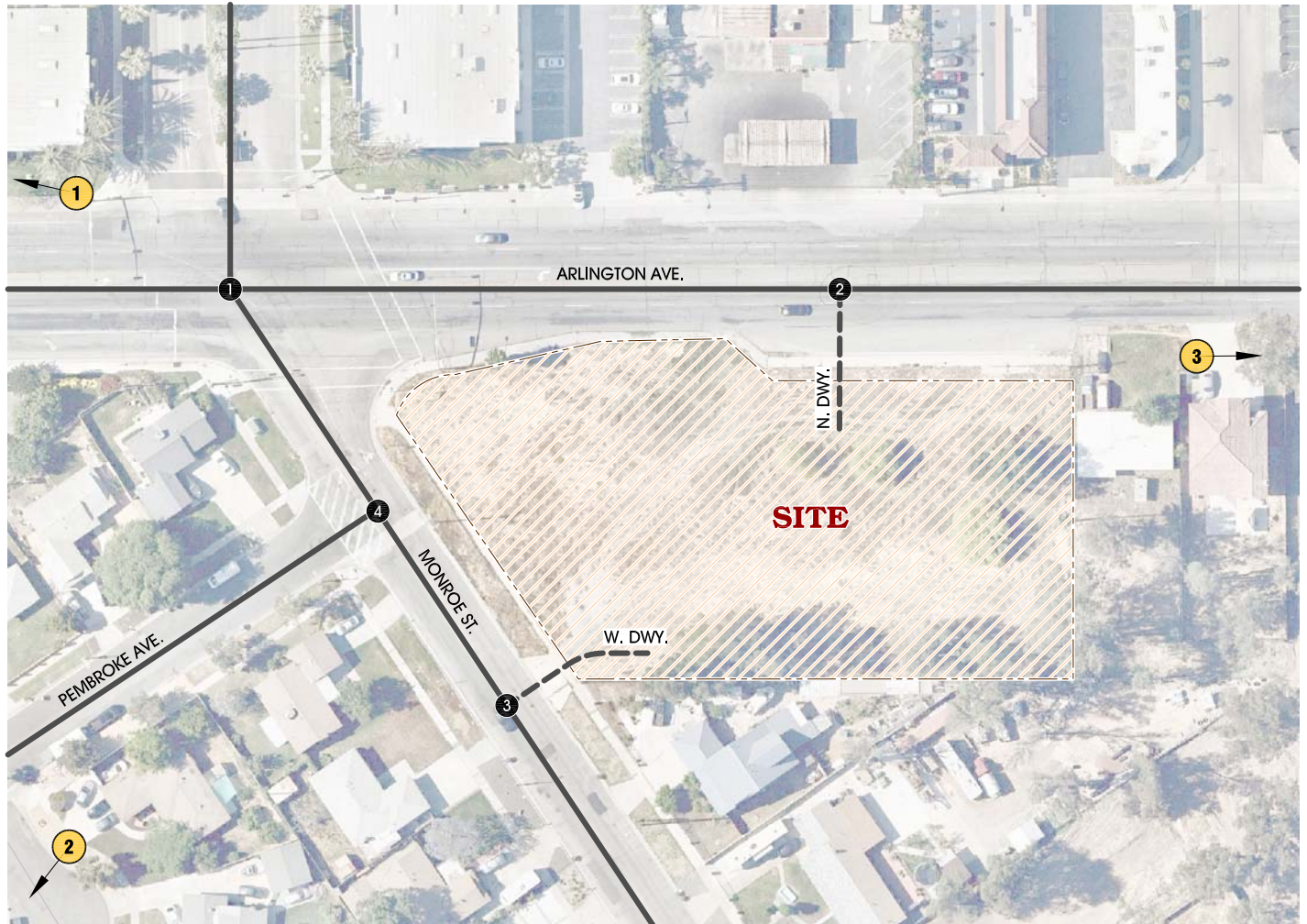
For cumulative projects, ITE Trip Generation Rates (11th Edition) were used. Table 3-4 presents the cumulative development land uses and trip generation summary. As presented in Table 3-4 Cumulative developments are projected to generate a total of approximately 4,455 trip-ends per day with 410 vehicles per hour during the AM peak hour and 343 vehicles per hour during the PM peak hour.

4. Total Background Peak Hour Turning Movement Volumes

Cumulative development peak hour intersection turning movement are shown on Figure 3-G.

Existing plus Ambient plus Cumulative (EAC 2026) AM and PM peak hour intersection turning movement volumes are shown on Figure 3-H .

FIGURE 3-F CUMULATIVE DEVELOPMENTS LOCATION MAP



LEGEND:

- 3
= INTERSECTION ID
- 3
= CUMULATIVE DEVELOPMENT ID
(SEE TABLE 3-4 FOR REFERENCE)



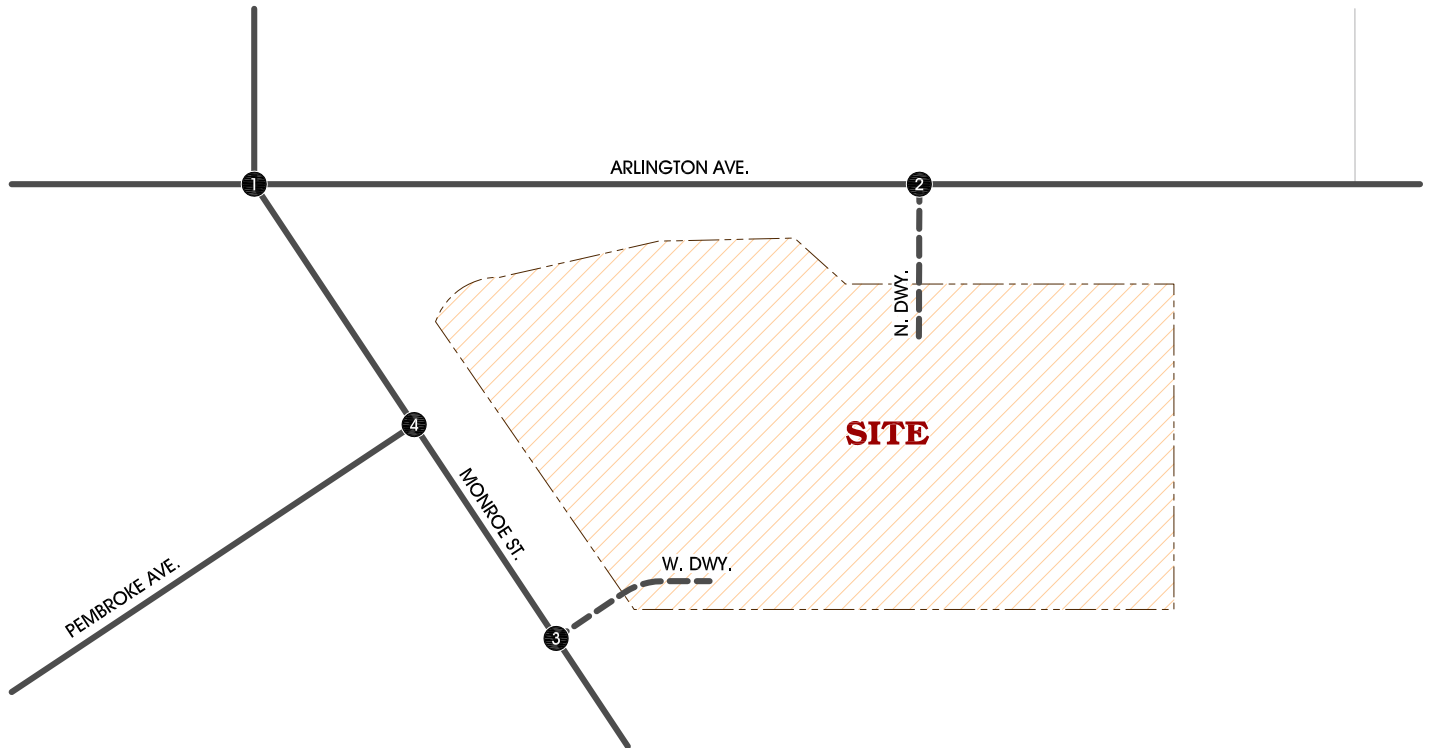
TABLE 3-4

CUMULATIVE DEVELOPMENT TRIP GENERATION SUMMARY

ID	PROJECT NAME	LAND USE	QUANTITY ¹	PEAK HOUR						DAILY
				AM			PM			
				IN	OUT	TOTAL	IN	OUT	TOTAL	
1	P15-0958, P15-0959, P15-1105; (6458 Van Buren Bl.)	Automated Car Wash	14.035 TSF	BUILT						519
		Shopping Center (>150k)		7	4	11	23	25	48	
		Fast-Food Restaurant w/ Drive-Through Window		3	66	134	52	48	100	
		Subtotal		75	70	145	75	73	148	1,921
	P16-0277 P16-0279 (6350 Van Buren Blvd.)	Fast-Food Restaurant w/ Drive-Through Window	3 TSF	68	66	134	52	48	100	1,402
PR-2021-001186 (6589 Van Buren Blvd)	Warehousing	84.580 TSF	11	3	14	4	11	15	145	
PR-2023-001589 (NWC Arlington Blvd & Van Buren Blvd)	Multifamily Housing (Low-Rise)	42 DU	4	13	17	13	8	21	283	
	Subtotal		158	152	310	144	140	284	3,751	
2	P20-0026 P20-0028 P20-0029; (9321 Duncan Avenue)	Multifamily Housing	6 DU	1	2	3	2	1	3	40
	P20-0489 P20-0490 P20-0491 P20-0492 P20-0493 (92621 Duncan Avenue)	Single Family Detached	6 DU	1	3	4	4	2	6	57
	PR-2021-001141 (9354 Duncan Avenue)	Single Family Detached	2 DU	1	1	2	1	1	2	19
	PR-2023-001569 (4990 Van Buren Blvd)	Coffee/Donut Shop with Drive-Through Window	0.95 TSF	42	40	82	19	19	38	507
		Subtotal		45	46	91	26	23	49	623
3	PR-2022-001459 (6611 Arlington Ave)	Single Family Detached	2 DU	1	1	2	1	1	2	19
	PR-2023-001596 (6291 Arlington Ave)	Warehousing	30.304 TSF	4	1	5	2	4	6	52
	PR-2023-001542 (6822 Weaver St)	Warehousing	6.000 TSF	1	1	2	1	1	2	10
		Subtotal		6	3	9	4	6	10	81
Total Cumulative Projects Trips				209	201	410	174	169	343	4,455

¹ TSF = Thousand Square Feet; DU = Dwelling Units; VFP = Vehicle Fueling Positions

FIGURE 3-G CUMULATIVE DEVELOPMENTS ONLY TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.
	FUTURE INTERSECTION	FUTURE INTERSECTION	

LEGEND:

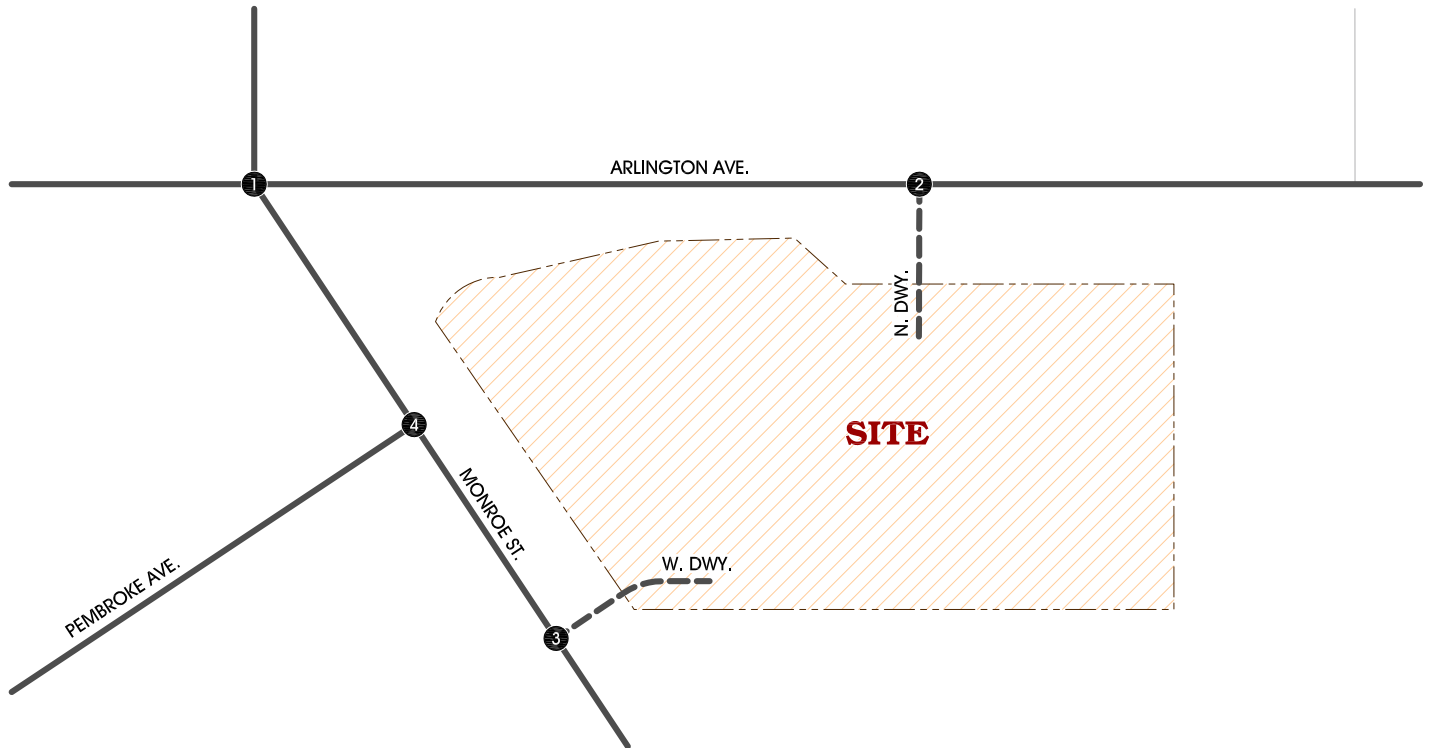
4 = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.
	FUTURE INTERSECTION	FUTURE INTERSECTION	



FIGURE 3-H EXISTING PLUS AMBIENT PLUS CUMULATIVE (2026) TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.
	FUTURE INTERSECTION	FUTURE INTERSECTION	

LEGEND:

4 = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.
	FUTURE INTERSECTION	FUTURE INTERSECTION	



Existing plus Ambient plus Cumulative Plus Project (EACP 2026) AM and PM peak hour intersection turning movement volumes with full access configuration at the N. Project Driveway are shown on Figure 3-I.

Existing plus Ambient plus Cumulative Plus Project (EACP 2026) AM and PM peak hour intersection turning movement volumes with RIRO access configuration at the N. Project Driveway are shown on Figure 3-J.

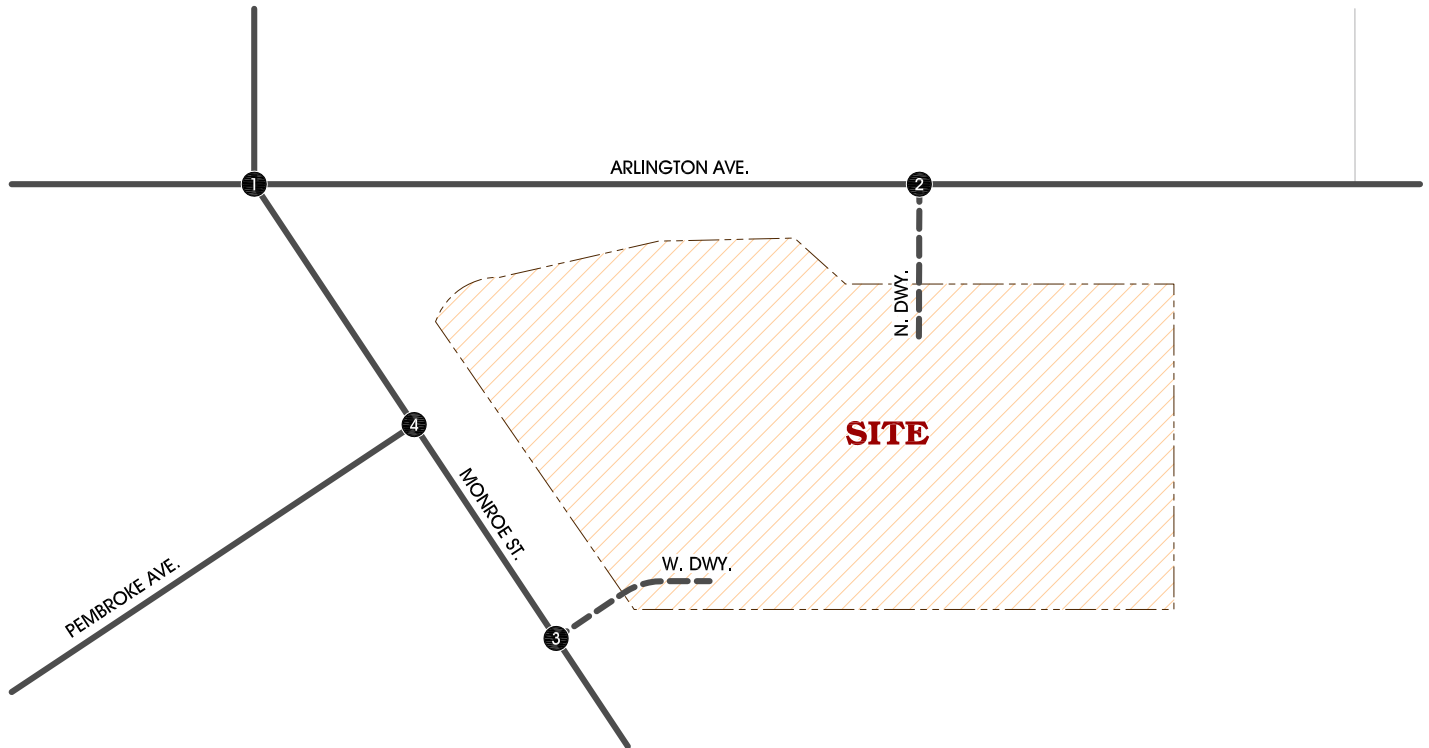
Cumulative Horizon forecast (2045) conditions have been estimated by applying a 2% annual growth rate for the first 10 years and 1.5% annual ambient growth rate for the remaining years to the existing 2025 traffic volumes.

Cumulative Horizon Year (2045) without Project AM and PM peak hour intersection turning movement volumes are shown on Figure 3-K.

Cumulative Horizon Year (2045) with Project AM and PM peak hour intersection turning movement volumes with full access configuration at the N. Project Driveway are shown on Figure 3-L.

Cumulative Horizon Year (2045) with Project AM and PM peak hour intersection turning movement volumes with RIRO access configuration at the N. Project Driveway are shown on Figure 3-M.

FIGURE 3-1 EACP (2026) TRAFFIC VOLUMES (WITH FULL ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
← 8	← 13	← 59	← 793	← 208	← 59	← 4	← 252
← 40	← 40	← 865	← 57	← 49	← 45	← 5	← 417
→ 51	→ 828	→ 926	→ 24	→ 362	→ 33	→ 22	→ 5
→ 203	→ 283	→ 27	→ 32	→ 49	→ 33	→ 4	→ 417
	↑ 50						
	↑ 106						

LEGEND:

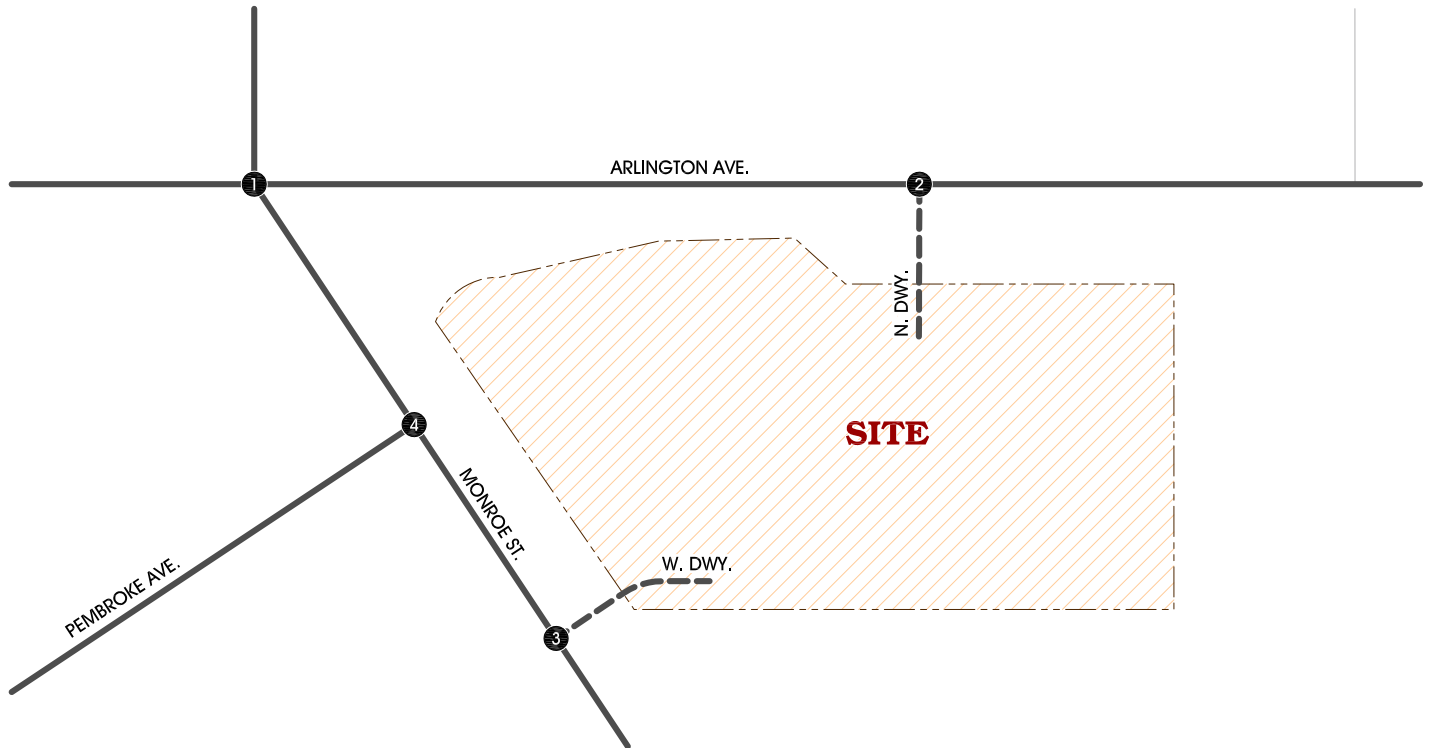
④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
← 45	← 36	← 34	← 950	← 327	← 49	← 28	← 365
← 79	← 89	← 1050	← 48	← 41	← 38	← 3	← 257
→ 12	→ 957	→ 1075	→ 20	→ 214	→ 28	→ 15	→ 6
→ 268	→ 205	→ 23	→ 27	→ 41	→ 28	→ 3	→ 257
	↑ 8						
	↑ 59						



FIGURE 3-J EACP (2026) TRAFFIC VOLUMES (WITH RIGHT-IN/RIGHT-OUT ONLY ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖8	↖13			↖208	↖86	↖4	
↖768	↖97		↖922	↖98	↖45	↖301	
↘51	↘308	↘926	↘32		↘362	↘22	↘4
↘836	↘52	↘32	↘32		↘33	↘5	↘444
↘195	↘106						

LEGEND:

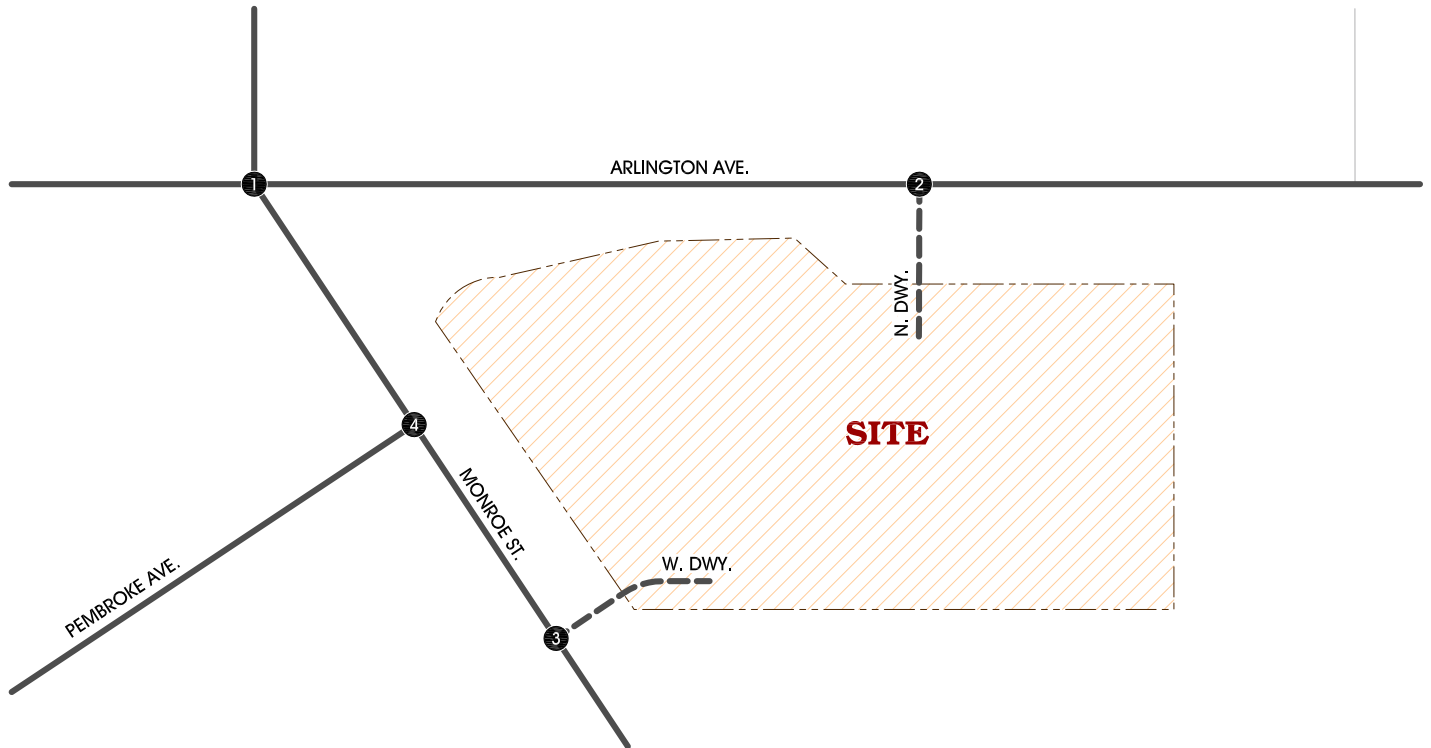
④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
↖45	↖32			↖327	↖72	↖28	
↖36	↖929		↖1098	↖82	↖38	↖406	
↖79	↖137					↖15	↖6
↘12	↘227	↘1038	↘64		↘214	↘3	↘280
↘964	↘9	↘64	↘64		↘28		
↘262	↘59						



FIGURE 3-K CUMULATIVE HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																		
<table border="1" style="width: 100%; text-align: center;"> <tr> <td>↙11</td> <td>↘15</td> <td>↘19</td> </tr> <tr> <td>↖76</td> <td>↔1057</td> <td>↙53</td> </tr> <tr> <td>↖68</td> <td>↔1073</td> <td>↙252</td> </tr> <tr> <td>↘329</td> <td>↖63</td> <td>↖140</td> </tr> </table>	↙11	↘15	↘19	↖76	↔1057	↙53	↖68	↔1073	↙252	↘329	↖63	↖140	FUTURE INTERSECTION	FUTURE INTERSECTION	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>↖5</td> <td>↖314</td> </tr> <tr> <td>↖30</td> <td>↙7</td> </tr> <tr> <td>↖5</td> <td>↖502</td> </tr> </table>	↖5	↖314	↖30	↙7	↖5	↖502
↙11	↘15	↘19																			
↖76	↔1057	↙53																			
↖68	↔1073	↙252																			
↘329	↖63	↖140																			
↖5	↖314																				
↖30	↙7																				
↖5	↖502																				

LEGEND:

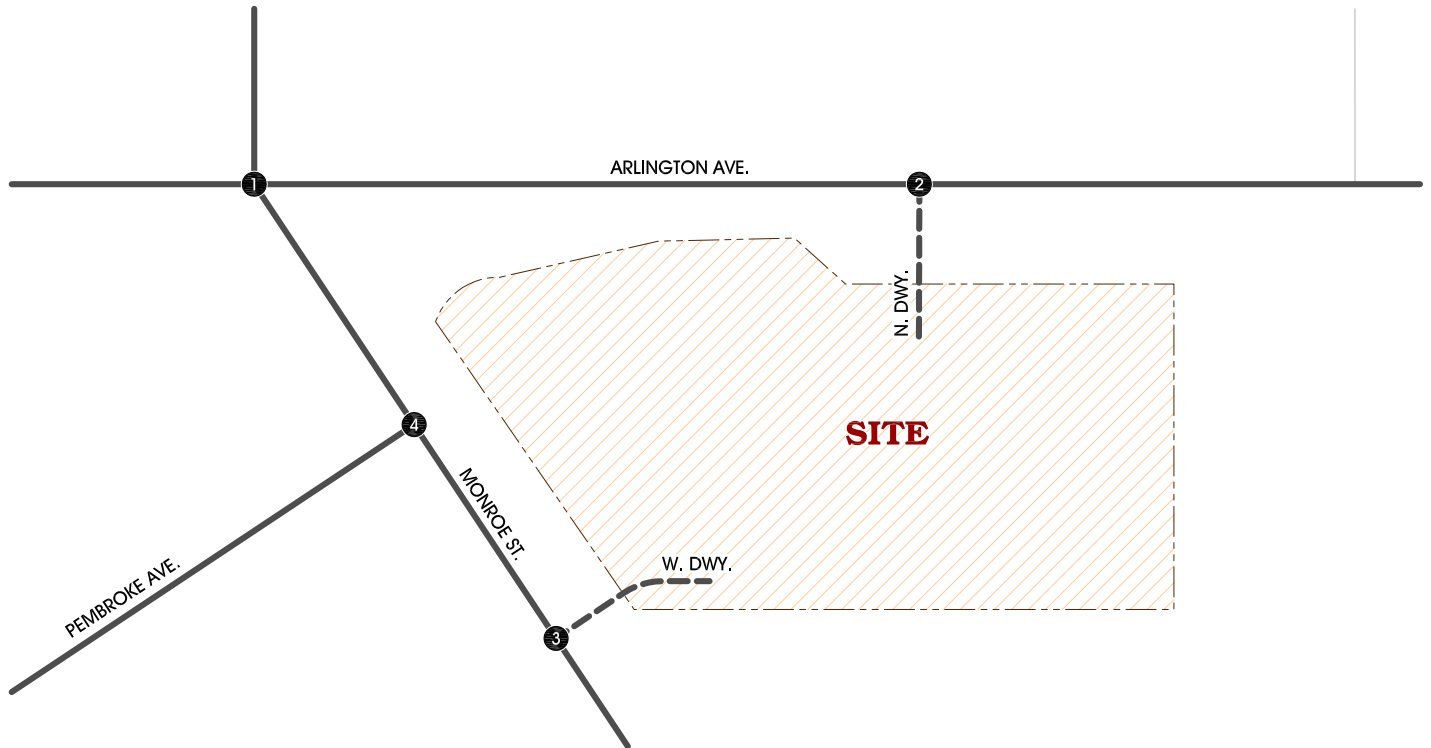
④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																		
<table border="1" style="width: 100%; text-align: center;"> <tr> <td>↙59</td> <td>↘45</td> <td>↘101</td> </tr> <tr> <td>↖42</td> <td>↔1263</td> <td>↙117</td> </tr> <tr> <td>↖16</td> <td>↔1249</td> <td>↙342</td> </tr> <tr> <td>↘235</td> <td>↖8</td> <td>↖78</td> </tr> </table>	↙59	↘45	↘101	↖42	↔1263	↙117	↖16	↔1249	↙342	↘235	↖8	↖78	FUTURE INTERSECTION	FUTURE INTERSECTION	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>↖36</td> <td>↖467</td> </tr> <tr> <td>↖20</td> <td>↙4</td> </tr> <tr> <td>↖8</td> <td>↖301</td> </tr> </table>	↖36	↖467	↖20	↙4	↖8	↖301
↙59	↘45	↘101																			
↖42	↔1263	↙117																			
↖16	↔1249	↙342																			
↘235	↖8	↖78																			
↖36	↖467																				
↖20	↙4																				
↖8	↖301																				



FIGURE 3-L CUMULATIVE HORIZON YEAR (2045) WITH PROJECT TRAFFIC VOLUMES (WITH FULL ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
←11 ←17 ←21	↖78 ↖1039 ↖53		↖1143 ↖57	←284 ↖49	↖59 ↖45	←5 ←326	
↘68 ↘1077 ↘262	↘361 ↘65 ↘140	↘1214 ↘24	↘27 ↘32	↘482 ↘33	↘30 ↘7	↘5 ↘536	

LEGEND:

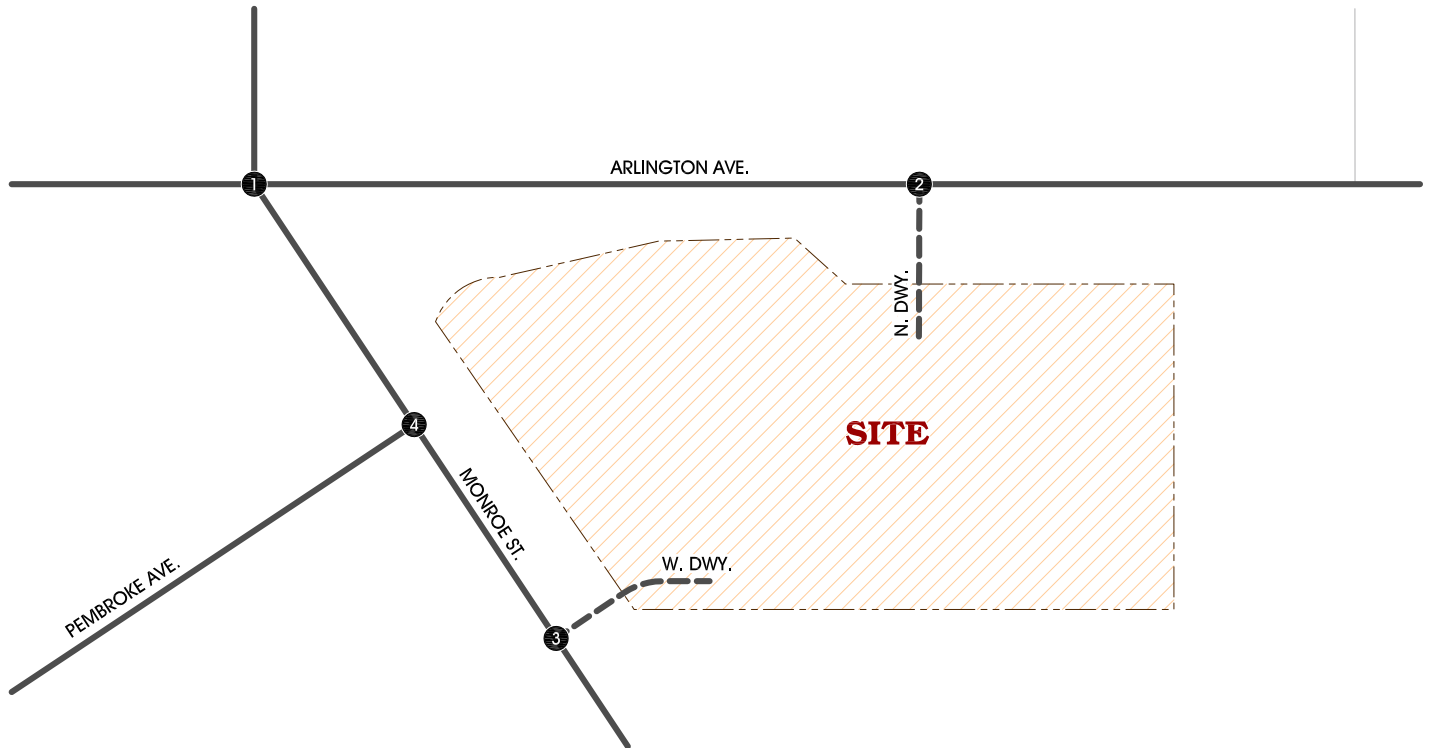
④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.		2. N. Dwy./ Arlington Ave.		3. Monroe St./ W. Dwy.		4. Monroe St./ Pembroke Ave.	
←59 ←47 ←103	↖44 ↖1248 ↖117		↖1386 ↖48	←440 ↖41	↖49 ↖38	←36 ←477	
↘16 ↘1252 ↘350	↘261 ↘70 ↘78	↘1413 ↘20	↘23 ↘27	↘288 ↘28	↘20 ↘4	↘8 ↘329	



FIGURE 3-M CUMULATIVE HORIZON YEAR (2045) WITH PROJECT TRAFFIC VOLUMES (WITH RIGHT-IN/RIGHT-OUT ONLY ACCESS AT N. PROJECT DRIVEWAY)



AM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																														
<table border="1"> <tr><td>←11</td><td>←76</td></tr> <tr><td>←17</td><td>←1014</td></tr> <tr><td>←21</td><td>←110</td></tr> <tr><td>68→</td><td>←1200</td></tr> <tr><td>1085→</td><td>32→</td></tr> <tr><td>254→</td><td>32→</td></tr> <tr><td>386→</td><td></td></tr> <tr><td>67→</td><td></td></tr> <tr><td>140→</td><td></td></tr> </table>	←11	←76	←17	←1014	←21	←110	68→	←1200	1085→	32→	254→	32→	386→		67→		140→			<table border="1"> <tr><td>←284</td><td>←86</td></tr> <tr><td>←98</td><td>←45</td></tr> <tr><td>482→</td><td>33→</td></tr> </table>	←284	←86	←98	←45	482→	33→	<table border="1"> <tr><td>←5</td><td>←375</td></tr> <tr><td>30→</td><td>5→</td></tr> <tr><td>7→</td><td>563→</td></tr> </table>	←5	←375	30→	5→	7→	563→
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7→	563→																																

LEGEND:

④ = INTERSECTION ID

PM PEAK HOUR INTERSECTION VOLUMES:

1. Monroe St./ Arlington Ave.	2. N. Dwy./ Arlington Ave.	3. Monroe St./ W. Dwy.	4. Monroe St./ Pembroke Ave.																														
<table border="1"> <tr><td>←59</td><td>←42</td></tr> <tr><td>←47</td><td>←1227</td></tr> <tr><td>←103</td><td>←165</td></tr> <tr><td>16→</td><td>←1434</td></tr> <tr><td>1259→</td><td>1376→</td></tr> <tr><td>344→</td><td>64→</td></tr> <tr><td>283→</td><td>64→</td></tr> <tr><td>11→</td><td></td></tr> <tr><td>78→</td><td></td></tr> </table>	←59	←42	←47	←1227	←103	←165	16→	←1434	1259→	1376→	344→	64→	283→	64→	11→		78→			<table border="1"> <tr><td>←440</td><td>←72</td></tr> <tr><td>←82</td><td>←38</td></tr> <tr><td>288→</td><td>28→</td></tr> </table>	←440	←72	←82	←38	288→	28→	<table border="1"> <tr><td>←36</td><td>←518</td></tr> <tr><td>20→</td><td>8→</td></tr> <tr><td>4→</td><td>352→</td></tr> </table>	←36	←518	20→	8→	4→	352→
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288→	28→																																
←36	←518																																
20→	8→																																
4→	352→																																



4.0 FUTURE TRAFFIC ANALYSIS

Peak hour intersection analysis has been performed at the study area intersections for each of the project scenarios and for projected future conditions. Improvements are recommended to satisfy the level of service requirements of the City of Riverside and if the following impacts are identified:

- 1) When existing traffic conditions (Analysis Scenario 1) exceed the General Plan target LOS.
- 2) When project traffic, when added to existing traffic (Analysis Scenario 2), will deteriorate the LOS to below the target LOS, and impacts cannot be mitigated through project conditions of approval.
- 3) When cumulative traffic (Analysis Scenario 3) exceeds the target LOS, and impacts cannot be mitigated through existing infrastructure funding mechanisms.

A. Delay and Level of Service Analysis Under Existing plus Ambient plus Cumulative (EAC 2026) Conditions

Intersection levels of service for the EAC traffic conditions are shown in Table 4-1. Table 4-1 shows HCM calculations based on the geometrics at the study area intersections. The operation analysis worksheets for EAC traffic conditions are provided in Appendix "F".

For EAC traffic conditions, the study area intersections are anticipated to continue to operate at an acceptable level of service (LOS "D" or better) with existing geometry and traffic controls.

B. Delay and Level of Service Analysis Under Existing plus Ambient plus Cumulative plus Project (EACP 2026) Conditions

Intersection levels of service for the EACP traffic conditions are shown in Table 4-1. Table 4-1 shows HCM calculations based on the geometrics at the study area intersections and for conditions without and with intersection improvements.

For EACP traffic conditions with either a full access configuration or RIRO restriction at the N. Project Driveway are anticipated to continue to operate at an acceptable LOS (LOS "D" or better) during the peak hours.

The EACP condition operations analysis worksheets with full access configuration at the N. Project Driveway are provided in Appendix "G".

The EACP condition operations analysis worksheets with RIRO restriction at the N. Project Driveway are provided in Appendix "H".

TABLE 4-1

INTERSECTION ANALYSIS FOR
OPENING YEAR (2026) CONDITIONS

ID	Intersection	Traffic Control ¹	Intersection Approach Lanes ²												EAC		EACP									
			Northbound			Southbound			Eastbound			Westbound			Delay ³ (secs.)		Level of Service ³		Delay ³ (secs.)		Level of Service ³		Delay ³ (secs.)		Level of Service ³	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Monroe St. / Arlington Ave.	TS	1	1	0	1	1	0	1	2	1	1	2	d	33.1	35.6	C	D	33.8	35.4	C	D	36.4	38.2	D	D
2	N. Dwy. / Arlington Ave.																									
	- Full Access	CSS	0	1!	0	0	0	0	0	2	1	1*	2	0	--	--	--	--	20.0	22.2	C	C	--	--	--	--
	- RIRO Access	CSS	0	0	1	0	0	0	0	2	1	0	2	0	--	--	--	--	--	--	--	--	12.7	14.6	B	B
3	Monroe St. / W. Dwy.	CSS	0	1	d	0.5	0.5	0	0	0	0	0	1!	0	--	--	--	--	14.5	12.8	B	B	16.0	13.4	C	B
4	Monroe St. / Pembroke Ave.	CSS	0.5	0.5	0	0	1	0	0	1!	0	0	0	0	13.9	13.5	B	B	14.5	14.0	B	B	15.7	14.9	C	B

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane; d = Defacto right turn lane;

* = Left Turn Within Two Way Left Turn Lane (TWLTL) median; 1 = Improvement

³ Delay and level of service calculated using the following analysis software: Synchro 11 HCM6

⁴ Project North Driveway with no turn restrictions, full access.

⁵ Project North Driveway restricted to right-in/right-out only (RIRO) access.

C. Delay and Level of Service Analysis for Cumulative Horizon (2045) Conditions

Intersection levels of service for the Cumulative Horizon (2045) traffic conditions are shown in Table 4-2. Table 4-2 shows HCM calculations based on the geometrics at the study area intersections and for conditions without and with intersection improvements.

For Cumulative Horizon (2045) traffic conditions, the study area intersections are projected to operate at an acceptable level of service.

The Cumulative Horizon (2045) without Project conditions operations analysis worksheets are provided in Appendix "I".

The Cumulative Horizon (2045) condition operations analysis worksheets with full access configuration at the N. Project Driveway are provided in Appendix "J".

The Cumulative Horizon (2045) condition operations analysis worksheets with RIRO restriction at the N. Project Driveway are provided in Appendix "K".

D. Queuing Analysis for Cumulative Horizon (2045) With Project Conditions

Per the request of the City, the following queuing analysis is provided. The peak hour queues have been evaluated under Cumulative Horizon Year (2045) With Project traffic conditions (most intensive traffic scenario) to determine the 95th percentile queues. The traffic modeling and signal timing optimization software package Synchro/SimTraffic has been utilized to assess queues at the study intersections.

The 95th percentile queue is not necessarily ever observed and provided for information purposes only; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many jurisdictions utilize the 95th percentile queues for design purposes. Queuing results with full access and RIRO access at the N. Project Driveway are provided in Appendices L and M, respectively.

Table 4-3 summarizes the available queue storage, average queue length, and 95th percentile queue length for the turning lanes at each study intersection. As shown in Table 4-3, the calculated 95th percentile queue occasionally exceed available storage lanes. However, further review of SimTraffic simulation results indicate that the turn lane queues are anticipated to clear in a timely manner and that the provided turn lanes are adequate to accommodate projected peak hour queues.

It should be noted however that if RIRO is implemented on the N. Project Driveway, the queues indicate that a minimum of 175 ft. westbound left turn lane should be provided at the intersection of Monroe Street and Arlington Avenue.

TABLE 4-2

INTERSECTION ANALYSIS FOR
CUMULATIVE HORIZON YEAR (2045) CONDITIONS

ID	Intersection	Traffic Control ¹	Intersection Approach Lanes ²												2045 w/o Project				2045 w/ Project							
			Northbound			Southbound			Eastbound			Westbound			Delay ³ (secs.)		Level of Service ³		Delay ³ (secs.)		Level of Service ³		Delay ³ (secs.)		Level of Service ³	
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
1	Monroe St. / Arlington Ave.	TS	1	1	0	1	1	0	1	2	1	1	2	d	38.5	51.0	D	D	39.3	47.4	D	D	42.2	52.9	D	D
2	N. Dwy. / Arlington Ave.																									
	- Full Access	CSS	0	1!	0	0	0	0	0	2	1	1*	2	0	--	--	--	--	28.6	34.6	D	D	--	--	--	--
	- RIRO Access	CSS	0	0	1	0	0	0	0	2	1	0	2	0	--	--	--	--	--	--	--	--	15.0	18.4	C	C
3	Monroe St. / W. Dwy.	CSS	0	1	d	0.5	0.5	0	0	0	0	0	1!	0	--	--	--	--	18.2	15.1	C	C	21.0	16.2	C	C
4	Monroe St. / Pembroke Ave.	CSS	0.5	0.5	0	0	1	0	0	1!	0	0	0	0	16.4	15.9	C	C	17.2	16.5	C	C	18.7	17.7	C	C

¹ TS = Traffic Signal; CSS = Cross Street Stop

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1! = Shared Left-Through-Right Lane; 0.5 = Shared Lane; d = Defacto right turn lane;

* = Left Turn Within Two Way Left Turn Lane (TWLTL) median; 1 = Improvement

³ Delay and level of service calculated using the following analysis software: Synchro 11 HCM6

⁴ Project North Driveway with no turn restrictions, full access.

⁵ Project North Driveway restricted to right-in/right-out only (RIRO) access.

TABLE 4-3
QUEUEING ANALYSIS SUMMARY FOR
CUMULATIVE HORIZON YEAR (2045) WITH PROJECT CONDITIONS

ID	Intersection	Turning Movement Lane	Storage Length Provided ² (feet)	With Full Access ⁴		With RIRO ⁵	
				95th Percentile Queue Length Per Lane (feet) ¹		95th Percentile Queue Length Per Lane (feet) ¹	
				AM	PM	AM	PM
1	Monroe St. / Arlington Ave.	EBL	100	233 ⁴	106 ⁴	181 ⁴	101 ⁴
		EBR	215	183	184	179	172
		WBL	90	159 ⁴	168	169 ⁷	175 ⁷
		NBL	55	54	49	54	49
		SBL	250+	46	141	41	115
2	N. Dwy. / Arlington Ave.	WBL	50	72 ⁴	62 ⁴	N/A	N/A
		NB L/R	30	126 ⁵	158 ⁵	N/A	N/A
		NBR	30	N/A	N/A	51 ⁵	55 ⁵
3	Monroe St. / W. Dwy.	WB L/R	30	178 ⁵	88 ⁵	188 ⁵	122 ⁵
		SB L/T	65	72 ⁶	85 ⁶	78 ⁶	64 ⁶
4	Monroe St. / Pembroke Ave.	EB L/R	100+	196	64	255	55
		NB L/T	65	90 ⁶	102 ⁶	96 ⁶	97 ⁶
		SB T/R	55	1	11	52	14

¹ Queue length calculated using Synchro 10

² Existing/Proposed pocket length storage (for turning movements) or link distance (for through movements). 100 = Existing; 100 = Future

³ 95th percentile queue is anticipated to exceed available storage length. However, the excess queue length can be accommodated within the transition lane.

⁴ Excess in queue can be accommodated within existing two-way left turn lane striped median.

⁵ Excess in queue is accommodated on-site.

⁶ 95th percentile queue is anticipated to exceed available storage length. However, further review of simulation results indicate that vehicle stacking appears to clear in a timely manner.

⁷ With median improvements along Arlington Avenue (east of Monroe Street), a minimum of 175 ft. WBL turn pocket is recommended at the N. Project Dwy./Arlington Av. intersection.

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5.0 FINDINGS AND RECOMMENDATIONS

A. Traffic Impacts, Level of Service Analysis, and Site Access Recommendations

For Existing (2025) and Existing plus Project (EP), EAC, EACP, and Cumulative Horizon Year (2045) without and With Project traffic conditions (with full access or RIRO at N. Project Driveway), the study area intersections operate at an acceptable level of service (LOS "D" or better) during the peak hours with the existing geometry and traffic controls.

Site Access Recommendations

The following driveway configurations are recommended for site access purposes.

Monroe St./ W. Project Driveway [#3]

- Install a stop sign control on the westbound approach.
- Provide a shared westbound left/right lane.

- **With Full Access at N. Project Driveway:**

N. Project Driveway/Arlington Ave. [#2]

- Install a stop sign control on the northbound approach.
- Provide a shared northbound left/right lane.
- Provide an eastbound right turn lane.

As mentioned previously, there will be a future median improvement project on the east side of Monroe Street/Arlington Avenue intersection and may be impacted for the N. Project Driveway located along Arlington Avenue. Therefore, the following alternative improvement has been evaluated to restrict left turns and implement a right-in/right-out only access at the N. Project Driveway.

- **With Right-in/Right-out Only (RIRO) Access at N. Project Driveway:**

N. Project Driveway/Arlington Ave. [#2]

- Install a stop sign control on the northbound approach.
- Provide a northbound right lane.
- Provide an eastbound right turn lane.

B. Funding Mechanisms

In order to address the cumulative traffic impacts from the proposed project and other developments in the area, the City has the following funding mechanisms available.

Transportation Uniform Mitigation Fee (TUMF)

The Transportation Uniform Mitigation Fee (TUMF) Program was established to assist in funding the Regional System of Highways and Arterials throughout Riverside County. TUMF allows developers to contribute toward sustaining the regional transportation system on a “fair share” basis. Managed by the Western Riverside Council of Governments (WRCOG), the program is not designed to be the only source of revenue but would complement funds generated by Measure A, local transportation fee programs, etc.

Development Impact Fees (DIF)

The development impact fee (DIF) is intended to construct or acquire needed facilities, preserve open space, and habitat needed to serve new developments. The transportation facilities include roads, bridges, and traffic signals.

C. Circulation Recommendations

1. On-Site

Figure 5-A illustrates the on-site recommended roadway and intersection lane improvements with full access at the N. Project Driveway. Construction of on-site improvements shall occur in conjunction with adjacent project development activity or as needed for project access purposes.

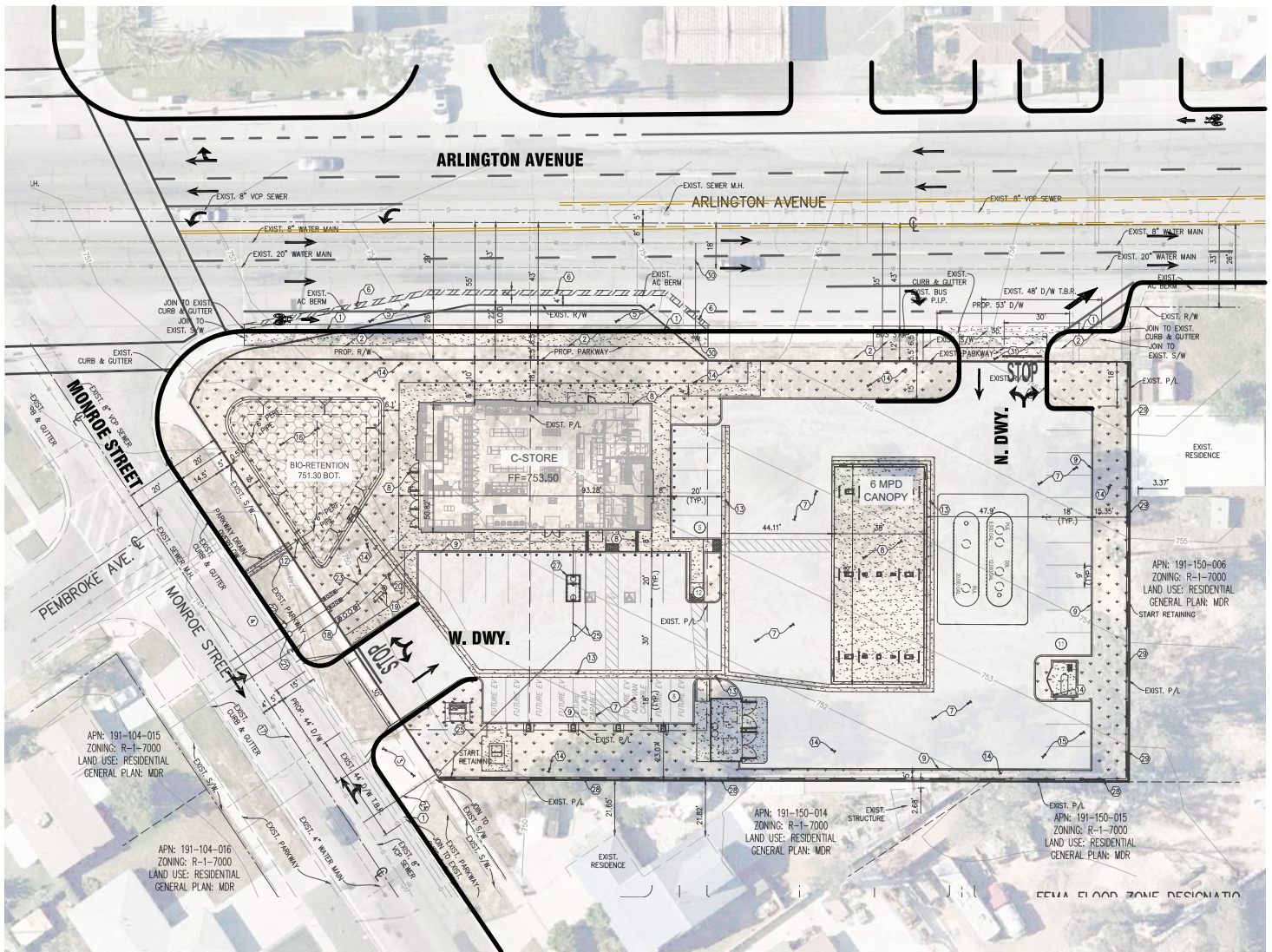
Figure 5-B illustrates the on-site recommended roadway and intersection lane improvements with right-in/right-out only access restriction at the N. Project Driveway due to the future median improvement project on the east side of Monroe Street/Arlington Avenue intersection, per DRC meeting.

The recommended on-site roadway improvements are described below.

- Provide stop sign control at the project driveway.
- On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.
- Verify that minimum sight distance is provided at the project access points.

Figure 5-C illustrates the on-site pedestrian circulation which shows the existing and proposed sidewalks, pedestrian paths, and crosswalks.

FIGURE 5-A ON-SITE CIRCULATION RECOMMENDATIONS (WITH FULL ACCESS AT N. PROJECT DRIVEWAY)



ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT.

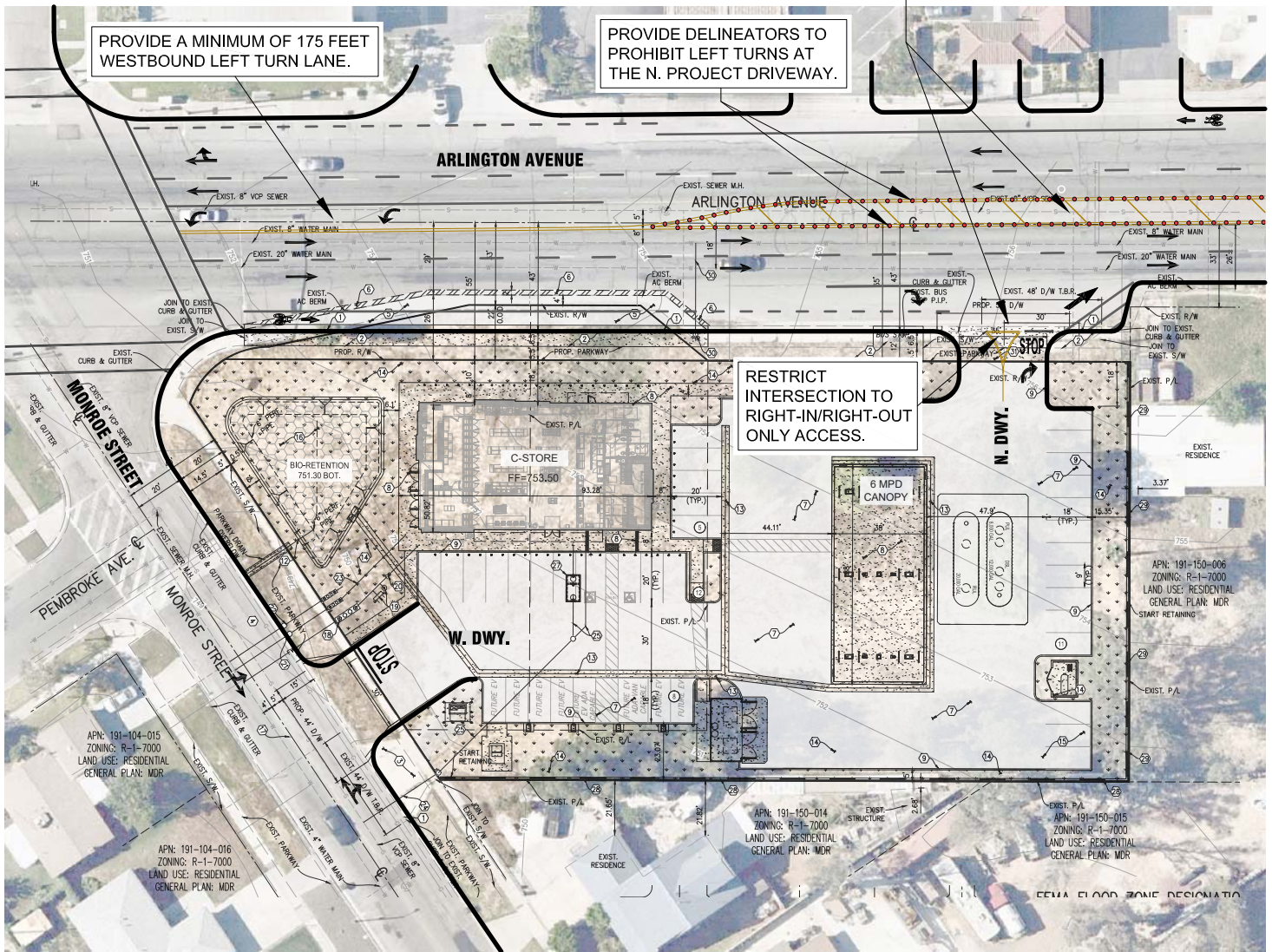
VERIFY THAT MINIMUM SIGHT DISTANCE IS PROVIDED AT THE PROJECT DRIVEWAYS.

PROVIDE STOP SIGN CONTROLS AT PROJECT DRIVEWAYS.



FIGURE 5-B ON-SITE CIRCULATION RECOMMENDATIONS (WITH RIGHT-IN/RIGHT-OUT ONLY AT N. PROJECT DRIVEWAY)

AS DISCUSSED IN THE DRC MEETING, THERE WILL BE A FUTURE MEDIAN IMPROVEMENTS PROJECT ON THE EAST SIDE OF MONROE STREET/ARLINGTON AVENUE INTERSECTION AND MAY BE IMPACTED FOR THE N. PROJECT DRIVEWAY LOCATED AT ARLINGTON AVENUE.



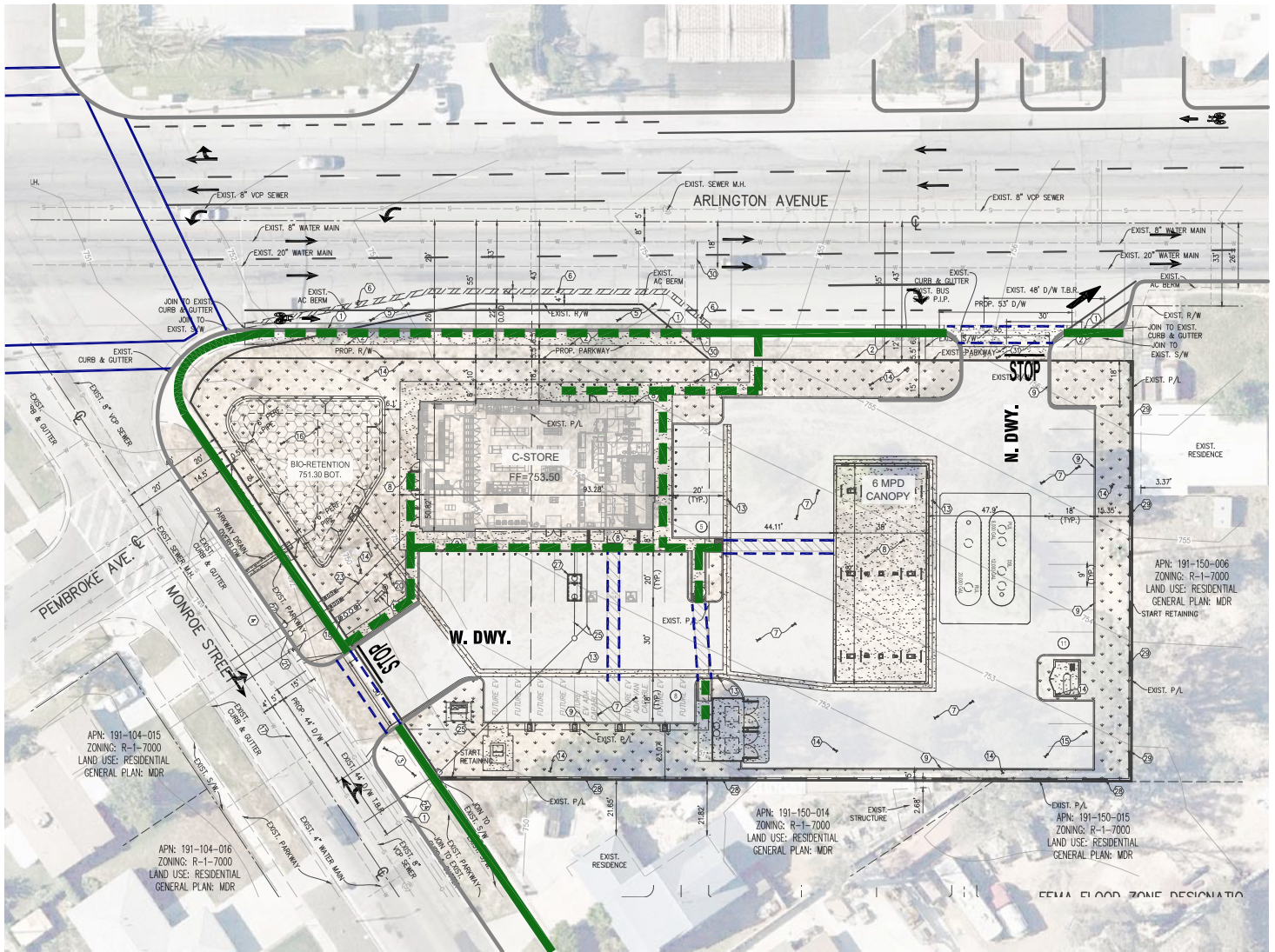
ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT.

VERIFY THAT MINIMUM SIGHT DISTANCE IS PROVIDED AT THE PROJECT DRIVEWAYS.

PROVIDE STOP SIGN CONTROLS AT PROJECT DRIVEWAYS.



FIGURE 5-C ON-SITE PEDESTRIAN CIRCULATION



LEGEND:

- = EXISTING SIDEWALK/PATH
- - - - = FUTURE SIDEWALK/PATH
- = EXISTING CROSSWALK
- - - - = FUTURE CROSSWALK



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