Technical Memorandum

To: Brian Stephenson, City of Murrieta

From: Marc Mizuta, Mizuta Traffic Consulting

Date: March 28, 2024

Re: Revised Traffic Analysis for the Proposed Viscar Terrace Apartments Project (PRE-2023-00016)

Mizuta Traffic Consulting (MTC) has prepared this memo summarizing the traffic analysis along Vista Murrieta Road for the proposed Viscar Terrace Apartments project ("Project") located in the City of Murrieta. This memo will address the following two key items: 1) traffic operations along Vista Murrieta Road and 2) sight distance at the project driveway.

PROJECT LOCATION

The Project site is located on two parcels (APN 949-180-022 and -23) that will be combined into one. The site currently contains a single family dwelling unit and an accessory building. The Project is generally located west of Vista Murrieta Road, east of Skypark Lane, and north of Carrigan Road. Access to the site is being proposed off Vista Murrieta via one new full access driveway.

PROJECT DESCRIPTION

The Project proposes to demolish the existing buildings on site and construct a 172-unit affordable housing project spanning over six buildings. An emergency access that is gated is provided onto Myers Lane. **Figure 1** shows the proposed site plan.

PROJECT TRIP GENERATION

The trip generation rate for the Project was based on the rates for the various land uses contained in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition*. **Table 1** summarizes the proposed trip generation for the Project.

As shown in the table, the Project is estimated to generate 828 daily trips (ADT) with 62 trips (18 inbound, 14 outbound) during the AM peak-hour and 80 trips (48 inbound, 32 outbound) in the PM peak-hour.

MIZUTA TRAFFIC CONSULTING

Table 1: Trip Generation Summary

TRIP GENERATION RATES[1]						
Land Use	ITE Code	Weekday Daily	AM PEAK Rate	AM PEAK In:Out Ratio	PM PEAK Rate	PM PEAK In:Out Ratio
Affordable Housing	223	4.81 trips / du	0.36	0.29 : 0.71	0.46	0.59 : 0.41

TRIP GENERATION CALCULATIONS								
Land Use	Amount	ADT	AM PEAK In	AM PEAK Out	AM PEAK Total	PM PEAK In	PM PEAK Out	PM PEAK Total
Viscar Terrace Apartments	172 du	828	18	44	62	48	32	80
TOTAL		**828**	**18**	**44**	**62**	**48**	**32**	**80**

Notes:
du: dwelling unit
1. The trip and passby rates for the project's land uses are based on the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.*

PROJECT TRIP DISTRIBUTION/ASSIGNMENT

The Project trip distribution was estimated based on existing travel patterns and on logical routes to local roadway network. Since Vista Murrieta Road is not fully built to its ultimate capacity, all Project traffic was assumed to travel to/from the north. **Figure 2** illustrates the assumed Project trip distribution through the project driveway. Based on the Project trip generation and distribution, the Project trips were assigned to the project driveway. **Figure 3** illustrates the Project trip assignment.

STUDY AREA

The following intersections and roadway segment are included as part of the study area:

Intersections

1. Vista Murrieta Road & Project Driveway (constructed as part of Project)

Segments

1. Vista Murrieta Road between Skypark Lane and Carrigan Road

ANALYSIS SCENARIOS

The following scenarios were evaluated as part of the project:

- Existing Conditions: This scenario represents the conditions on the ground at the time the traffic volume data was obtained (Thursday, November 2, 2023).
- Opening Year 2026 Baseline: This scenario represents the conditions on the anticipated year of opening for the Project, which is assumed to occur in 2026. This scenario also includes traffic from other approved and reasonably foreseeable pending projects that are expected to influence the study area.
- Opening Year 2026 Plus Project: This scenario represents the conditions of the anticipated year of opening for the Project and includes the Project traffic.

The traditional weekday peak-hour coinciding with the highest volume of traffic between 7:00 and 9:00 AM and between 4:00 and 6:00 PM was evaluated for each analysis scenario.

METHODOLOGY

Signalized and unsignalized intersection operations were analyzed with Synchro 11 software (Trafficware), using the methodologies outlined in the *Highway Capacity Manual 6th Edition (HCM6)*. The HCM methodology calculates delay, which corresponds to a particular LOS, to describe the overall operation of an intersection. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time.

The LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. At a one-way or two-way stop control intersection, the

delay reported represents the worst movement, which is typically the left-turns from the minor street approach. The criteria for the LOS grade designations are provided in **Table 2**.

Table 2
LOS Criteria for Intersections

LOS	LOS Criteria (sec/veh)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤10	≤10	EXCELLENT. Operations with very low delay and most vehicles do not stop.
B	>10 and ≤20	>10 and ≤15	VERY GOOD. Operations with good progression but with some restricted movements.
C	>20 and ≤35	>15 and ≤25	GOOD. Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35 and ≤55	>25 and ≤35	FAIR. Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>55 and ≤80	>35 and ≤50	POOR. Operations where there is significant delay, extensive queuing, and poor progression.
F	>80	>50	FAILURE. Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Source: *Highway Capacity Manual 6th Edition*

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. This analysis is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and the daily traffic volumes.

Table 3 summarizes the capacities for the various roadway classifications with the City of Murrieta for each respective LOS.

Table 3
LOS Criteria for Roadway Segments

Facility Type	Number of Lanes	Maximum Two-Way Volume (ADT)		
		LOS C	LOS D	LOS E
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Multi-Modal Collector	4	28,700	32,300	35,900
Multi-Modal Collector	6	43,100	48,500	53,900
Augmented Urban Arterial	8	57,400	64,600	71,800
Urban Arterial	6	43,100	48,500	53,900
Arterial	4	28,700	32,300	35,900
Arterial	6	43,100	48,500	53,900
Major	4	27,300	30,700	34,100
Secondary	4	20,700	23,300	25,900
Collector	2	10,400	11,700	13,000

Source: *City of Murrieta General Plan Update, Table 3*

Traffic Volumes

Existing traffic volume counts were obtained on November 2, 2023 along Vista Murrieta Road and Skypark Lane. It was confirmed that school was in session according to the Murrieta Valley Unified School District. **Figure 4** illustrates the Existing traffic volumes.

The Opening Year 2026 Baseline Conditions traffic volumes were developed by applying a regional growth factor of two percent to the existing traffic volumes for two years. The growth rate is consistent with other projects in the project vicinity. **Figures 5 and 6** illustrate the Opening Year 2026 Baseline and Opening Year 2026 With Project traffic volumes.

Intersection Analysis

The City's General Plan Circulation Element Policy CIR-1.2 states that all intersections need to maintain a Level of Service (LOS) D or better during peak hours.

Table 4 summarizes the LOS analysis results for the Vista Murrieta Road & Project Driveway intersection under all scenarios. As shown in the table, the project driveway would operate at LOS A during the weekday peak-hours. As a result, no additional improvements are required and/or recommended.

Table 4
Peak Hour Intersection LOS Summary

#	Intersection	Traffic Control	Peak Hour	Existing Conditions		Opening Year 2026		Opening Year 2025 w/Proj	
				Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Vista Murrieta Rd & Proj Dwy	OWSC	AM	DNE[3]		DNE[3]		9.2	A
			PM					9.3	A

Notes:
OWSC: One-Way Stopped Control
1. Delays are reported as the average control delay for the entire intersection at signalized intersections and the worst movement at unsignalized intersections.
2. LOS calculations are based on the methodology outlined in the *Highway Capacity Manual 6th Edition (HCM6)* and performed using Synchro 11.
3. DNE: Does not exist and will be constructed as part of the Project.

Roadway Segment Analysis

The City's General Plan Circulation Element Policy CIR-1.3 states that all roadway segments need to maintain a LOS D or better. Vista Murrieta Road is classified as a Collector roadway, but is not built to its ultimate classification and functions as a 2-lane local roadway. There is no capacity assigned to a local roadway. As a result, the LOS was based on its ultimate capacity of a Collector roadway of 13,000 ADT.

Table 5 displays the LOS analysis for the Vista Murrieta Road segment under all scenarios. As shown in the table, the Vista Murrieta Road segment would function at LOS A under all scenarios. As a result, no additional improvements are required and/or recommended.

Table 5
Opening Year 2025 Roadway LOS Summary

Roadway Segment	Existing Conditions			Opening Year 2026			Opening Year 2026 w/Proj		
	ADT	v/c Ratio[1]	LOS	ADT	v/c Ratio[1]	LOS	ADT	v/c Ratio[1]	LOS
Vista Murrieta Rd									
Skypark Ln to Carrigan Rd	685	0.05	A	712	0.05	A	1,540	0.12	A

Notes:
1. The ultimate capacity of a Collector roadway (13,000 ADT) was used for the analysis.

Sight Distance

The sight distance at the project driveway was analyzed to ensure it satisfied the requirements of the City's Standard Drawing No. 214. Vista Murrieta Road is classified as a Collector roadway (rolling designation) and has a design speed of 35 miles per hour (mph). A design speed of 35 mph requires a minimum corner sight distance of 385 feet and a minimum stopping sight distance of 250 feet. The sight distance is measured 10 feet behind the edge of travel way.

Figure 7 illustrates the sight distance at the project driveway. As shown in the figure, the corner sight distance of 385 feet cannot be achieved due to the horizontal curve along Vista Murrieta Road. However, the stopping sight distance of 360 feet is satisfied. The projected low traffic

volumes along this roadway with the Project and the projected lower speeds in the southbound direction due the horizontal curvature of the roadway would substantiate the Project satisfying the sight distance requirements.

SUMMARY

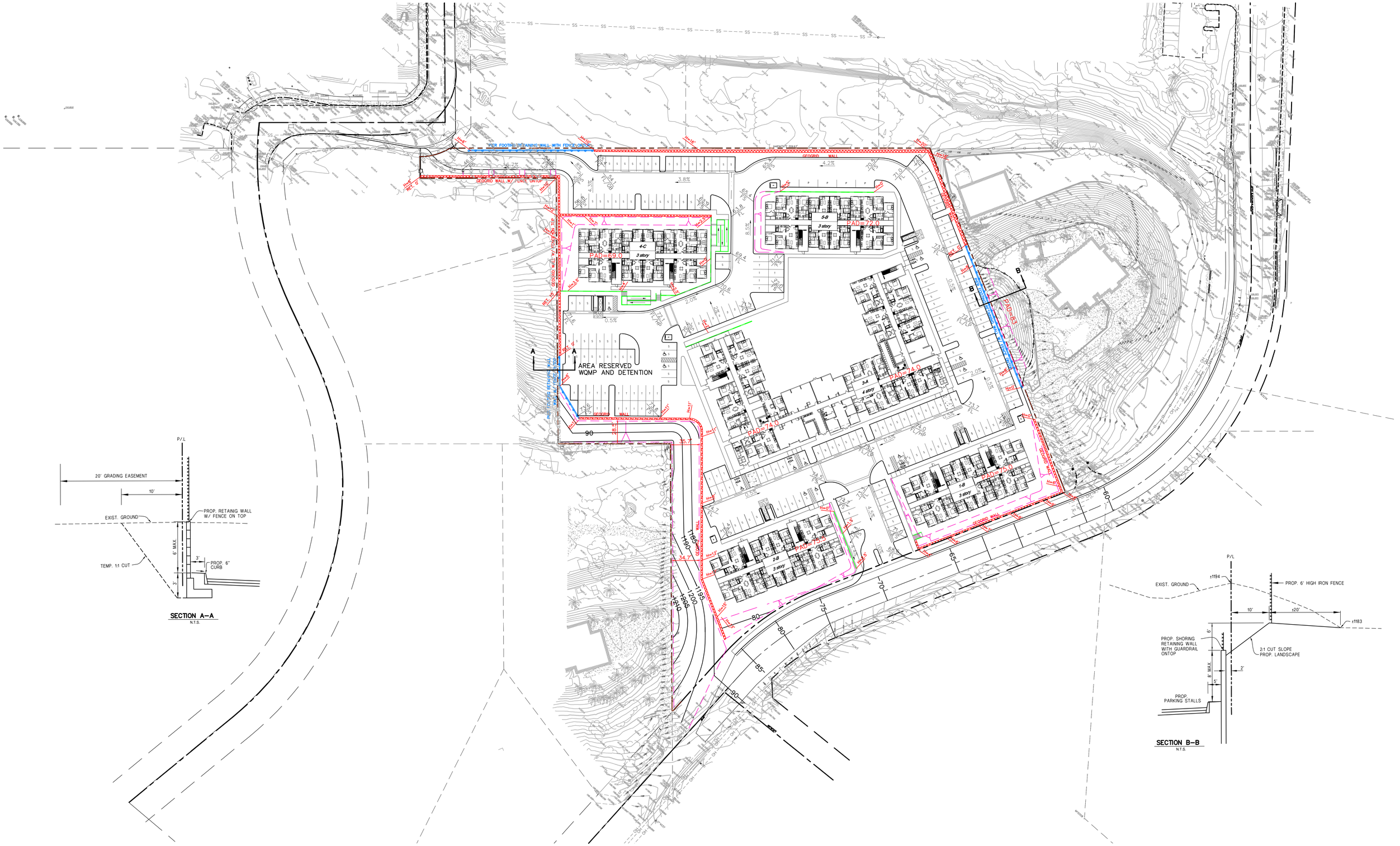
The following list summarizes the key findings for the Project:

- The Project consists of demolishing the existing buildings on site and constructing a 172-unit affordable housing project spanning over six buildings.
- The Project is forecasted to generate 828 daily trips with 62 AM peak-hour trips and 62 PM peak-hour trips at the project driveway.
- The project driveway intersection with Vista Murrieta Road is expected to operate at an acceptable LOS A under all scenarios. This satisfies the General Plan Circulation Element Policy CIR-1.2.
- The Vista Murrieta Road roadway is expected to function at an acceptable LOS A under all scenarios. This satisfies the General Plan Circulation Element Policy CIR-1.3.
- The project driveway off Vista Murrieta Road satisfies the City's corner sight distance requirements per the City's Standard Drawing No. 214.

ATTACHMENTS

- Figures
- Excerpts from *City of Murrieta's Standard Drawings*
- Existing Traffic Volume Data
- Synchro Worksheets

Figure 1: Site Plan



xx% / (yy%) = Enter % / (Exit %)
The naming convention for intersections is North / South & East / West

xx% Trip Distribution Percentage

Vista Murrieta & Proj Dwy

100% / (0%)

1

0% / (100%)

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Viscar Terrace Apartments

Project Trip Distribution

Figure 2

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North / South & East / West

Vista Murrieta & Proj Dwy

18 / 48

1

44 / 32

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Viscar Terrace Apartments

Project Trip Assignment

Figure 3

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North / South & East / West

xx,xxx ADT

Vista Murrieta & Proj Dwy
Does not exist

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Existing Conditions Traffic Volumes

Figure 4

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North / South & East / West

Vista Murrieta & Proj Dwy
Does not exist

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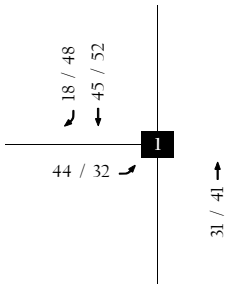
Viscar Terrace Apartments

Opening Year 2026 Traffic Volumes

Figure 5

xx / yy = AM / PM Peak-Hour Turning Movement Volumes
The naming convention for intersections is North / South & East / West

Vista Murrieta & Proj Dwy



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Viscar Terrace Apartments

Opening Year 2026 With Project Traffic Volumes

Figure 6

PIER FOOTING RETAINING WALL

PIER FOOTING RETAINING WALL W/ FENCE ONTOP

B1 B1 B1 B1 C1 A1 C1 A2 C1 B1 C1 A1 A1

BASED ON 35 MPH DESIGN SPEED

385' FEET OF CORNER SIGHT DISTANCE AT 10' FROM FACE OF CURB

SUBJECT VEHICLE AT 10' OFF OF FACE OF CURB

VISTA MURRIETA

SOUTHBOUND APPROACH VEHICLE

VISTA MURRIETA

385' FEET OF CORNER SIGHT DISTANCE AT 10' FROM FACE OF CURB

NORTHBOUND APPROACH VEHICLE

SCALE : 1" = 60'

0 15 30 60 90

SCALE: 1" = 60'

REGISTERED PROFESSIONAL ENGINEER
MARC MIZUTA
No. 67801
CIVIL
STATE OF CALIFORNIA

PLANS PREPARED UNDER THE SUPERVISION OF:

MARC MIZUTA
R.C.E. No. 67801
LICENSE EXPIRES 6-30-25

3/22/2024
DATE

MIZUTA TRAFFIC CONSULTING
5694 MISSION CENTER ROAD, #602-121
SAN DIEGO, CA 92108
(858) 752-8212

DWG:MTC–Vista Murrieta Sight Distance-@ 35 MPH | DATE:Mar. 22, 2024 | BY: DaS

Figure 7
AASHTO REQUIRED CORNER SIGHT DISTANCE
VISTA MURRIETA
RESIDENTIAL REDEVOPMENT
AT 10 FEET BACK FROM LIP OF DRIVEWAY

CITY OF MURRIETA, CALIFORNIA

CITY OF MURRIETA
DEPARTMENT OF PUBLIC WORKS

ROADWAY DESIGN REQUIREMENTS

STD. NO. 116

REVISIONS
5/92
10/98

APPROVED 1/14/10

ROAD TYPE

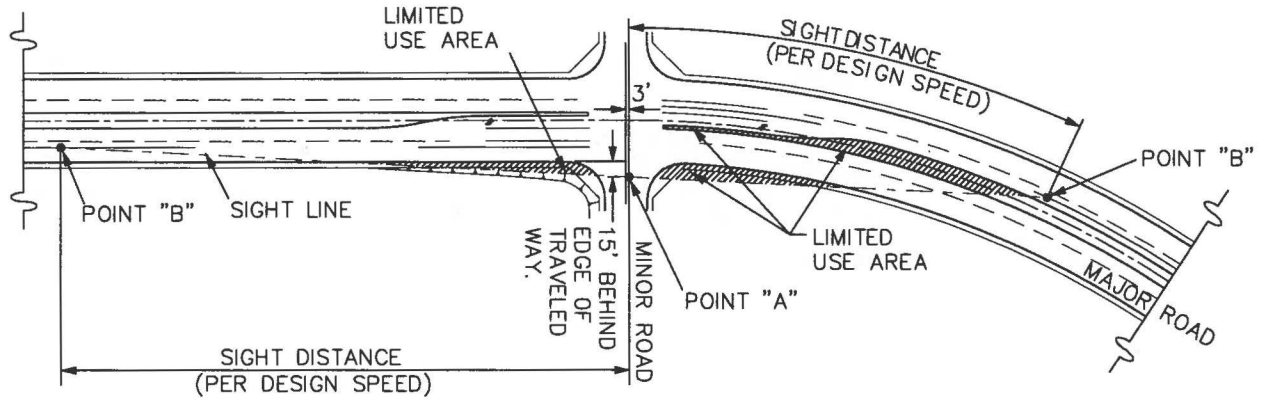
		RESTRICTED LENGTH CUL-DE-SAC	SHORT LOCAL CUL DE SAC	LOCAL ROAD	COLLECTOR (RESIDENTIAL /INDUSTRIAL)	SECONDARY	MAJOR	MOUNTAIN ARTIERIAL	ARTERIAL	URBAN ARTERIALS	EXPRESSWAY
R/W		50	60	60	66/78	88	100	110	110	120 134	142
SURFACED WIDTH CURB TO CURB		32	36	40	44/56	64	76	REFER TO STANDARD 114	86	98 110	86
PREFERRED RADII (HORIZONTAL)	FLAT	300	300	300	850	1600	2000	–	2000	2000	2400
	ROLLING	300	300	300	550	1000	1600	850	1600	1600	2000
	MOUNTAINOUS	AS APPROVED BY THE CITY ENGINEER									
MAX. GRADE %	FLAT	4	4	4	4	3	3	–	3	3	3
	ROLLING	9	9	9	8	6	6	7	6	6	6
	MOUNTAINOUS	15	15	15	12	9	9	9	9	–	–
DESIGN SPEED	FLAT	30	30	30	45	55	60	–	60	60	65
	ROLLING	30	30	30	35	45	55	45	55	55	60
	MOUNTAINOUS	AS APPROVED BY THE CITY ENGINEER (R=150' MIN.)									
INTERSECTION INTERVALS		NA	200	200	200	** 330	** 660	** 330	** 1320	* 1320	* 2640

NOTES:

1. ROADWAY DESIGN LESS THAN SHOWN REQUIRES ENGINEERING DEPARTMENT APPROVAL.
2. MINIMUM STREET GRADE 1.0% UNLESS APPROVED BY CITY ENGINEER.
3. PART-WIDTH STREET SECTIONS SHALL BE IMPROVED AND R/W CONVEYED AS SHOWN ON TYPICAL STREET SECTIONS.

* DIRECT ACCESS PROHIBITED.

** RESIDENTIAL ACCESS PROHIBITED. COMMERCIAL/INDUSTRIAL DRIVEWAY ACCESS AS DETERMINED BY THE CITY ENGINEER.



LEGEND:

- LIMITED USE AREA
- SIGHT LINE
- CENTERLINE OF ROADWAY
- CENTERLINE OF TRAFFIC LANE

POINT "A": DRIVER'S VANTAGE POINT.

POINT "B": THE REQUIRED SIGHT DISTANCE POINT, MEASURED ALONG THE CENTERLINE OF THE NEAREST LANE OF APPROACHING TRAFFIC.

NOT TO SCALE

DESIGN SPEED (M.P.H.)	CORNER SIGHT DIST. (FT.)	STOPPING SIGHT DIST. (FT.)
25	275	150
30	330	200
35	385	250
40	440	300
45	495	360
50	550	430
55	605	500
60	660	580

NOTES:

1. THE LIMITED USE AREA IS DETERMINED BY THE GRAPHICAL METHOD. IT SHALL BE USED FOR THE PURPOSE OF PROHIBITING OR CLEARING OBSTRUCTIONS TO MAINTAIN ADEQUATE SIGHT DISTANCE AT INTERSECTIONS.
2. LIMITED USE AREA TO BE KEPT CLEAR OF ALL OBSTRUCTIONS OVER 30 INCHES HIGH, INCLUDING VEGETATION.
3. NO TREES, WALLS, OR ANY OBSTRUCTIONS SHALL BE ALLOWED IN THE LIMITED USE AREA.
4. THE TOE OF SLOPE SHALL NOT ENCROACH INTO THE LIMITED USE AREA
5. THE SIGHT DISTANCE SHALL BE MEASURED ALONG THE CENTERLINE OF THE ROAD.
6. POINT "A" IS THE LOCATION OF THE DRIVER'S EYE, MEASURED 15 FEET BACK FROM THE EDGE OF THE TRAVELED WAY. (6 FEET FROM ETW, 1 FOOT STOP BAR, AND 8 FEET FROM FRONT BUMPER TO DRIVER.) IF THE STOP BAR IS MORE THAN 6 FEET FROM THE ETW, ADDITIONAL ALLOWANCE SHOULD BE CONSIDERED.
7. POINT "B" IS THE REQUIRED SIGHT DISTANCE POINT LOCATED ALONG THE CENTER OF THE NEAREST TRAFFIC LANE.
8. THE LINE OF SIGHT SHALL BE SHOWN AT INTERSECTIONS ON TENTATIVE MAPS, SITE PLANS, GRADING PLANS, STREET PLANS, AND LANDSCAPE PLANS.
9. CORNER SIGHT DISTANCE IS MEASURED FROM A 3.5 FOOT HEIGHT AT THE LOCATION OF THE DRIVER'S EYE ON THE MINOR ROAD, TO A 4.25 FOOT OBJECT HEIGHT IN THE CENTER OF THE NEAREST TRAFFIC LANE OF THE MAJOR ROAD.
10. WHEN AN INTERSECTION IS LOCATED ON A VERTICAL CURVE, A PROFILE OF THE SIGHT LINE SHALL BE PROVIDED.
11. IF DESIGNING A MINOR ROAD OR DRIVEWAY FOR TRUCK TRAFFIC, OR DOWNGRADES STEEPER THAN 3% AND LONGER THAN 1 MILE, ADDITIONAL SIGHT DISTANCE MAY BE REQUIRED AS DETERMINED BY THE CITY ENGINEER.

APPROVED 1/14/10

REVISIONS

5/92

CITY OF MURRIETA

DEPARTMENT OF PUBLIC WORKS

INTERSECTION SIGHT DISTANCE

STD. NO. 214

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Murrieta
Skypark Lane
B/ Myers Lane - Vista Murrieta
24 Hour Directional Volume Count

MUR001
Site Code: 235-231042

Start Time	11/2/23 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	5			0	3				
12:15		0	0			0	1				
12:30		0	0			0	4				
12:45		0	5	2	10	0	4	0	12	2	22
01:00		0	8			0	2				
01:15		0	5			0	0				
01:30		0	5			0	**2**				
01:45		0	5	0	23	1	**3**	1	7	1	30
02:00		0	4			0	**5**				
02:15		0	7			0	**4**				
02:30		0	12			0	1				
02:45		0	**11**	0	34	0	1	0	11	0	45
03:00		0	**26**			1	2				
03:15		0	**15**			0	7				
03:30		0	**13**			0	0				
03:45		1	8	1	62	0	2	1	11	2	73
04:00		0	2			0	0				
04:15		2	3			0	1				
04:30		0	3			0	1				
04:45		2	1	4	9	1	0	1	2	5	11
05:00		0	3			2	3				
05:15		0	3			0	1				
05:30		0	0			2	2				
05:45		1	3	1	9	9	1	13	7	14	16
06:00		2	2			**16**	0				
06:15		2	1			**33**	0				
06:30		4	2			**23**	3				
06:45		0	0	8	5	**20**	0	92	3	100	8
07:00		4	3			8	2				
07:15		3	0			4	0				
07:30		6	2			3	1				
07:45		1	3	14	8	3	1	18	4	32	12
08:00		1	0			1	0				
08:15		2	3			1	4				
08:30		8	0			9	0				
08:45		2	0	13	3	3	1	14	5	27	8
09:00		1	5			4	3				
09:15		2	2			3	3				
09:30		1	0			1	0				
09:45		5	0	9	7	5	0	13	6	22	13
10:00		**7**	0			4	0				
10:15		**3**	0			3	0				
10:30		**9**	0			5	0				
10:45		**9**	0	28	0	10	0	22	0	50	0
11:00		2	0			5	0				
11:15		5	0			2	0				
11:30		5	0			3	0				
11:45		2	0	14	0	1	0	11	0	25	0
Total		94	170	94	170	186	68	186	68	280	238
Combined Total		264		264		254		254		518	
AM Peak	-	10:00	-	-	-	06:00	-	-	-	-	-
Vol.	-	28	-	-	-	92	-	-	-	-	-
P.H.F.		0.778				0.697					
PM Peak	-	-	02:45	-	-	-	01:30	-	-	-	-
Vol.	-	-	65	-	-	-	14	-	-	-	-
P.H.F.			0.625				0.700				
Percentage		35.6%	64.4%			73.2%	26.8%				
ADT/AADT		ADT 518		AADT 518							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Murrieta
Vista Murrieta
B/ Skypark Lane - Carrigan Road
24 Hour Directional Volume Count

MUR002
Site Code: 235-231042

Start Time	11/2/23 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	6			0	5				
12:15		1	7			2	9				
12:30		1	4			1	0				
12:45		0	3	2	20	0	6	3	20	5	40
01:00		1	5			1	7				
01:15		0	2			0	1				
01:30		0	4			0	8				
01:45		0	3	1	14	0	3	1	19	2	33
02:00		0	9			0	10				
02:15		0	5			0	5				
02:30		0	6			0	2				
02:45		0	4	0	24	0	5	0	22	0	46
03:00		0	7			0	3				
03:15		0	11			0	4				
03:30		1	5			0	9				
03:45		0	11	1	34	1	12	1	28	2	62
04:00		0	**7**			0	9				
04:15		0	**10**			1	**15**				
04:30		0	**9**			0	**11**				
04:45		0	**13**	0	39	0	**15**	1	50	1	89
05:00		0	7			2	**23**				
05:15		0	3			2	4				
05:30		0	11			3	6				
05:45		1	7	1	28	0	11	7	44	8	72
06:00		0	3			0	5				
06:15		1	2			0	3				
06:30		0	3			1	5				
06:45		3	7	4	15	1	5	2	18	6	33
07:00		13	1			3	0				
07:15		6	2			11	1				
07:30		4	2			7	1				
07:45		9	2	32	7	3	2	24	4	56	11
08:00		7	7			**12**	1				
08:15		**10**	6			**14**	4				
08:30		**8**	1			**9**	2				
08:45		**5**	0	30	14	**8**	0	43	7	73	21
09:00		**12**	3			4	0				
09:15		3	2			3	1				
09:30		3	5			5	5				
09:45		1	1	19	11	7	1	19	7	38	18
10:00		4	1			7	0				
10:15		1	0			6	1				
10:30		1	1			1	0				
10:45		5	2	11	4	7	0	21	1	32	5
11:00		2	0			0	1				
11:15		0	1			9	1				
11:30		6	0			4	0				
11:45		4	0	12	1	4	0	17	2	29	3
Total		113	211	113	211	139	222	139	222	252	433
Combined Total		324		324		361		361		685	
AM Peak	-	08:15	-	-	-	08:00	-	-	-	-	-
Vol.	-	35	-	-	-	43	-	-	-	-	-
P.H.F.		0.729				0.768					
PM Peak	-	-	04:00	-	-	-	04:15	-	-	-	-
Vol.	-	-	39	-	-	-	64	-	-	-	-
P.H.F.			0.750				0.696				
Percentage		34.9%	65.1%			38.5%	61.5%				
ADT/AADT		ADT 685		AADT 685							

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	0	0	31	45	18
Future Vol, veh/h	44	0	0	31	45	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	0	0	34	49	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	93	59	69	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	907	1007	1532	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	907	1007	1532	-	-	-
Mov Cap-2 Maneuver	907	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	907	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	0	0	41	52	48
Future Vol, veh/h	32	0	0	41	52	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	0	0	45	57	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	128	83	109	0	-	0
Stage 1	83	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	866	976	1481	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	866	976	1481	-	-	-
Mov Cap-2 Maneuver	866	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1481	-	866	-	-
HCM Lane V/C Ratio	-	-	0.04	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-