



SM ROCHA, LLC

TRAFFIC AND TRANSPORTATION CONSULTANTS

October 14, 2024

Clifford Netuschil
BL Companies
6312 S Fiddlers Green Circle, Suite 300E
Greenwood Village, Colorado 80111

**RE: Warren Street Townhomes / Traffic Generation Analysis
Aurora, Colorado**

Dear Clifford,

SM ROCHA, LLC is pleased to provide traffic generation information for the development entitled Warren Street Townhomes. This development is located at 10209 E Warren Avenue in Aurora, Colorado.

The intent of this analysis is to present traffic volumes likely generated by the proposed development and consider potential impacts to the adjacent roadway network. This analysis was prepared in accordance to the City's Traffic Impact Study Guidelines¹.

The following is a summary of analysis results.

Site Description and Access


Land for the development is currently vacant and surrounded by a mix of residential, industrial and commercial land uses. The proposed development is understood to entail the new construction of a two building townhome community supporting a total of 11 three-story dwelling units.

Proposed access to the development is provided via one full-movement access onto S Galena Street (referred to as Site Access).

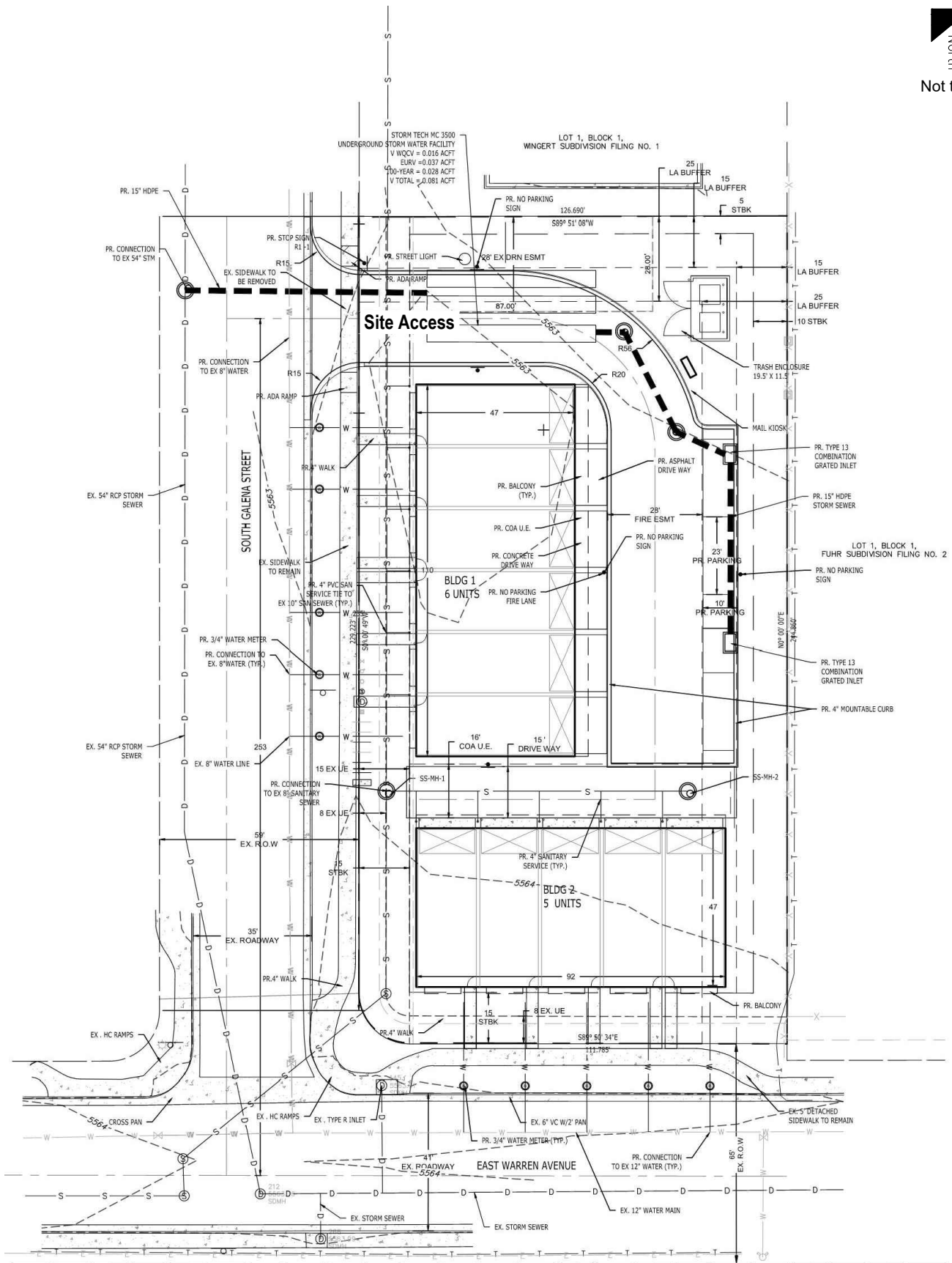
General site and access locations are shown on Figure 1.

A site plan, as prepared by BL Companies, is shown on Figure 2. This plan is provided for illustrative purposes only.

¹ Traffic Impact Study Guidelines, City of Aurora, Public Works Department, June 2015.

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THE ELECTRONIC PLAN IS A FACIMILE OF THE SIGNED AND SEALED PDF SET	
	10-15-2024
CLIFFORD NETUSCHIL, P.E.	DATE





Vehicle Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

Table 1 presents average trip generation rates for the development area proposed. Use of average trip generation rates presents a conservative analysis. ITE land use code 215 (Single-Family Attached Housing) was used for analysis because of its conservative rates and best fit to the proposed land use.

Table 1 – Trip Generation Rates

ITE CODELAND USEUNIT			TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
215	Single-Family Attached Housing	DU	7.20	0.12	0.36	0.48	0.34	0.23	0.57

Key: DU = Dwelling Units.

Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected ADT and peak hour traffic volumes likely generated by the additional land use area proposed.

There is a rounding error. Fix the error. From Table 3 it looks like it should have 7 total trips.

Table 2 – Trip Generation Summary

ITE CODELAND USESIZE			TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
215	Single-Family Attached Housing	11 DU	79	1	4	5	4	3	6
Total:			79	1	4	5	4	3	6

Table updated.

Key: DU = Dwelling Units.

Note: All data and calculations above are subject to being rounded to nearest value.

As Table 2 shows, the proposed development area has the potential to generate approximately 79 daily trips with 5 of those occurring during the morning peak hour and 6 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Generation Distribution and Assignment

Overall directional distribution of site-generated traffic was determined based on existing area land uses, the site location within the City, the available roadway network, and in reference to historical traffic count data provided by the Colorado Department of Transportation's (CDOT) Traffic Count Database System (TCDS)². Site-generated traffic is anticipated to be distributed through the proposed access. Distribution along E Warren Avenue is general and assumed to be 35 percent to/from the east and 50 percent to/from the west. Distribution along S Galena Street is assumed to be 15 percent to/from the north.

Traffic assignment is how the site-generated and distributed trips are expected to be loaded on the roadway network. Applying assumed trip distribution patterns to site-generated traffic provides the peak hour trip volume assignments for the proposed access. These volumes are then divided further upon travel through adjacent roadways serving the overall development area. Table 3 below uses the trip generation volumes from Table 2 and denotes projected traffic volumes at the proposed access and adjacent intersection.

Table 3 – Site Generated Trip Assignment

DEVELOPMENT ACCESS TURNING MOVEMENTS	AM PEAK HOUR		PM PEAK HOUR	
	Inbound Volume	Outbound Volume	Inbound Volume	Outbound Volume
Site Access / S Galena Street				
Westbound Left	-	3	-	3
Westbound Right	-	1	-	0
Northbound Right	1	-	3	-
Southbound Left	0	-	1	-
E Warren Avenue / S Galena Street				
Eastbound Left	1	-	2	-
Westbound Right	0	-	1	-
Southbound Left	-	1	-	1
Southbound Right	-	2	-	2

Development Impacts

As Tables 2 and 3 show, there is an increase in peak hour traffic volumes anticipated for the proposed development. However, these volumes are considered minor and are not likely to negatively impact operations of S Galena Street, E Warren Avenue, nor other adjacent roadways or intersections.

² Transportation Data Management System, MS2, 2024.

Conclusion

This analysis assessed traffic generation for the Warren Street Townhomes development and potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic resulting from the development is expected to create no negative impact to traffic operations for the surrounding roadway network and proposed site access, nor at the S Galena Street intersection with E Warren Avenue. Analysis of site-generated traffic concludes that proposed development traffic volumes are minor.

We trust that our findings will assist in the planning and approval of the Warren Street Townhomes development. Please contact us should further assistance be needed.

Sincerely,

SM ROCHA, LLC

Traffic and Transportation Consultants



Megan Bock, EIT
Traffic Engineer | Project Manager



Fred Lantz, PE
Traffic Engineer