

TRAFFIC IMPACT ANALYSIS

FOR

CREEKSIDE

49 SINGLE FAMILY HOMES

Prepared for

Horizon View Holdings, Inc.

Prepared by

DN Traffic Consultants, Inc.
PO Box 547
Preston, Washington 98050-0547

January 15, 2023
Updated: November 28, 2023

INTRODUCTION

The following report was prepared to address the traffic related impacts of a proposed single family residential development located in the city of Marysville, in the southeast area of the city limits. This study was prepared in conformance to the City's Traffic Impact Analysis guidelines.

To comply with City of Marysville requirements, an intersection analysis is required for all intersections impacted by 25 or more weekday PM peak hour trips. This analysis is conducted for a "Year of Opening" condition (typically 2 years out), and a "Horizon Year" condition (typically 8 years out).

This study includes analysis of weekday PM peak hour level of service (LOS) for the existing conditions (year 2022), Year of Opening conditions (2024) without and with the project, and Horizon Year conditions (2030) with and with the project. The original analysis included analysis at 79th Avenue NE / Soper Hill Road intersection. Evaluation of this intersection is no longer required due to the fact project's number of lots has decreased from 60 to 49.

The analysis of the project's site access is included. It includes the following intersections:

1. 44th Street NE / North Site Access
2. 79th Avenue NE / 40th Street NE plus South Site Access Extension, and
3. 40th Street NE / South Site Access (Horizon Year Analysis only).

PROJECT DESCRIPTION

The proposed project includes the construction of a 49-unit residential single family development. The site is located on the west side of 79th Avenue NE between 44th Street NE and 40th Street NE within the city of Marysville. A vicinity map is provided in Figure 1.

The site is located on three parcels: Parcel #29050200100300, Parcel #29050200100200, and Parcel #29050200100500. The site area is approximately 10 acres excluding the existing home. The zoning is R6.5 and is located in the East Sunnyside/Whiskey Ridge Master Plan Subarea. The allowed number of units is 78 based on MMC 22G.080.080. The proposed number of units is 60 single family detached homes. The site plan is shown in Figure 2.

Access to the site includes 44th Street NE, and one to the proposed realignment of 40th Street NE. The 40th Street NE realignment is shown in Figure 2. This roadway would connect to 79th Avenue NE at the existing tee-intersection with 40th Street NE (east leg). The existing west leg, 40th Street NE, would be terminated, and a new 4-way intersection is proposed with the site development.

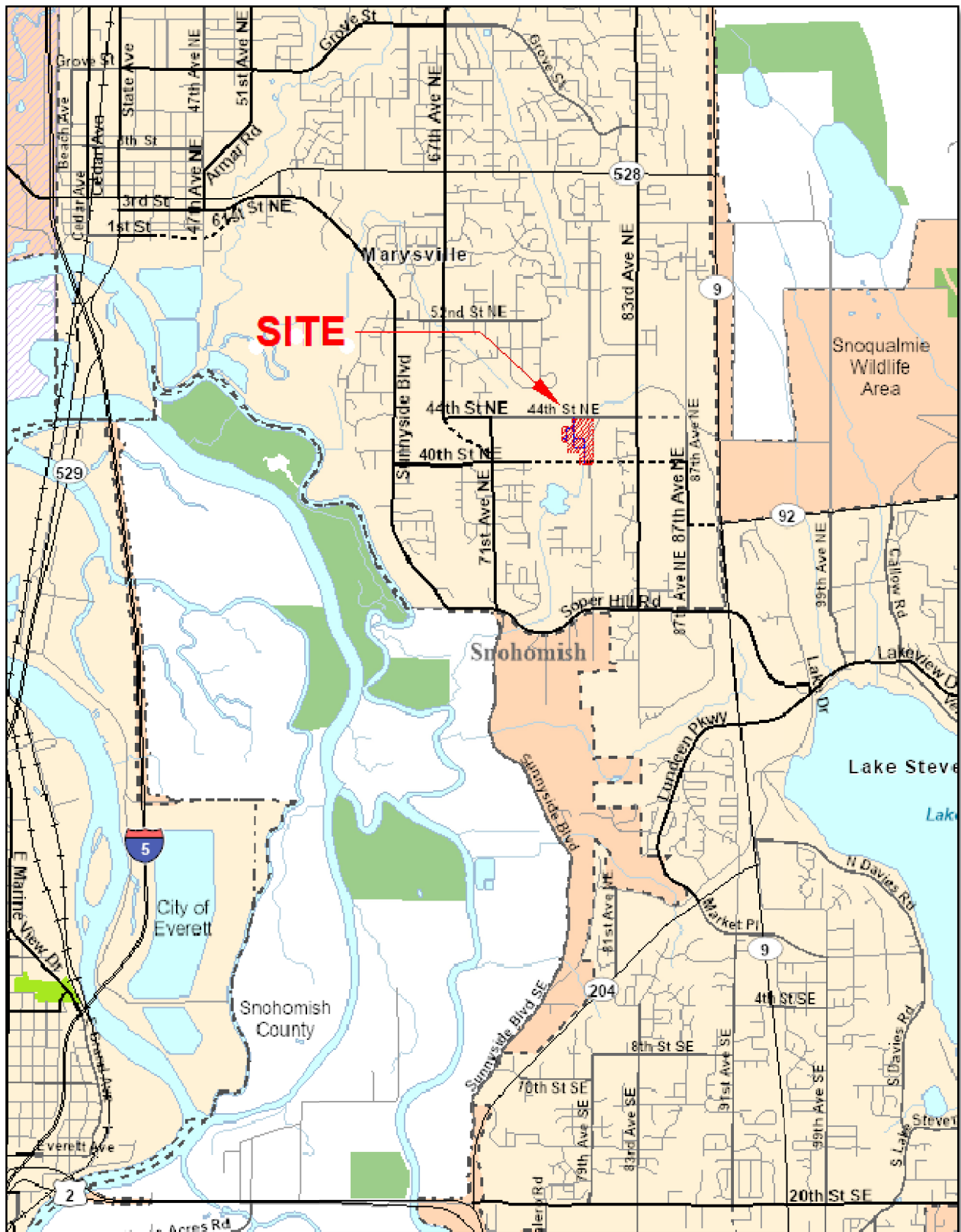


Figure 1: Vicinity Map with Site (north is up)

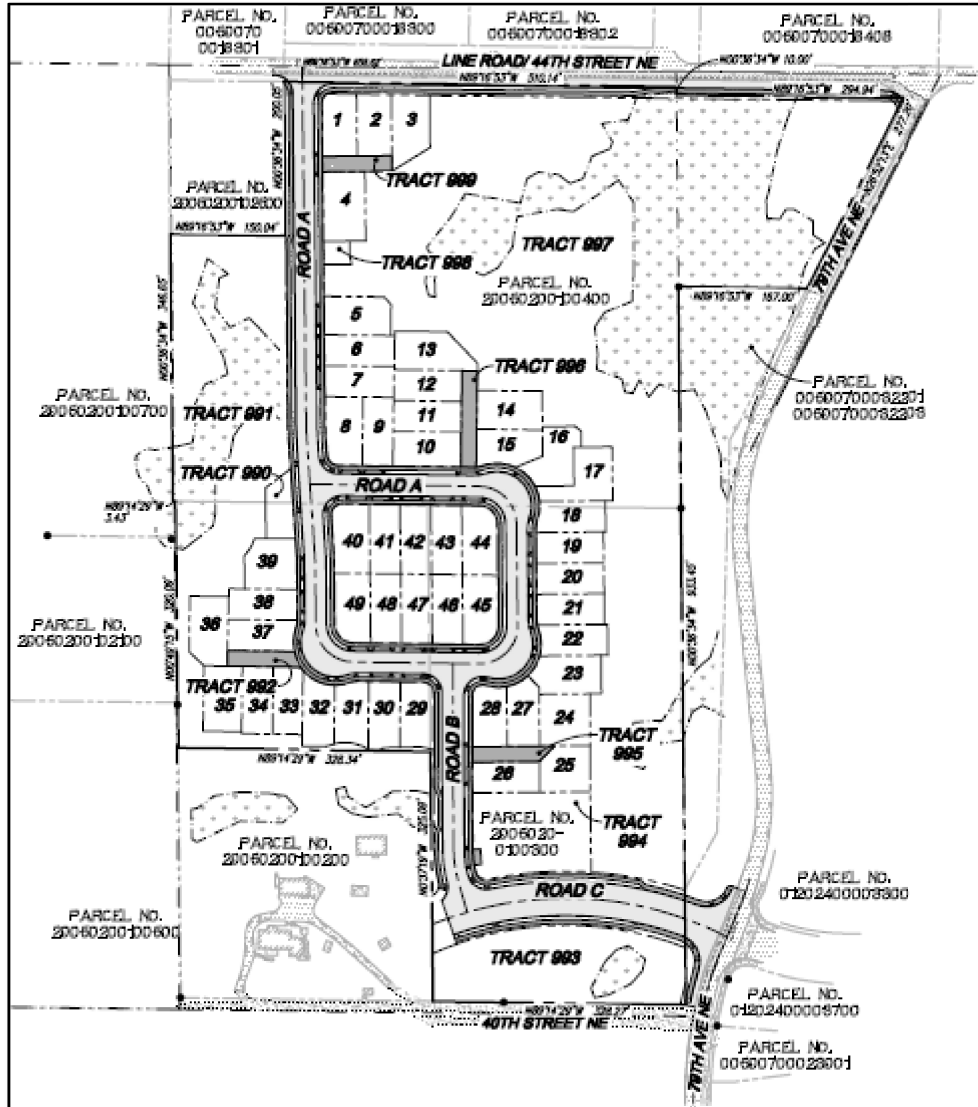


Figure 2: Site Plan (north is up)

METHODOLOGY

The analysis contained in this report is based on the City of Marysville traffic impact analysis guidelines, which identify analysis for intersections impacted with 25 or more peak-hour trips. The trip generation calculations are based on average trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The trip distribution is based on existing and horizon year trip distributions provided by the City of Marysville. These distribution figures are attached in the appendix.

Intersection analysis has been performed for the existing conditions, the 2024 opening year, and the 2030 horizon year for the site access intersections only. No off-site intersections are impacted by 25 or more in the 2024 Year of Opening or for the 2030 Horizon Year. Thus this study only includes analysis at the site access at 44th Street NE and the site access to 79th Avenue

NE across from 40th Street NE. The level of service analysis at the study intersections were performed in accordance with the *Highway Capacity Manual (HCM) 6th Edition*.

EXISTING TRAFFIC COUNTS

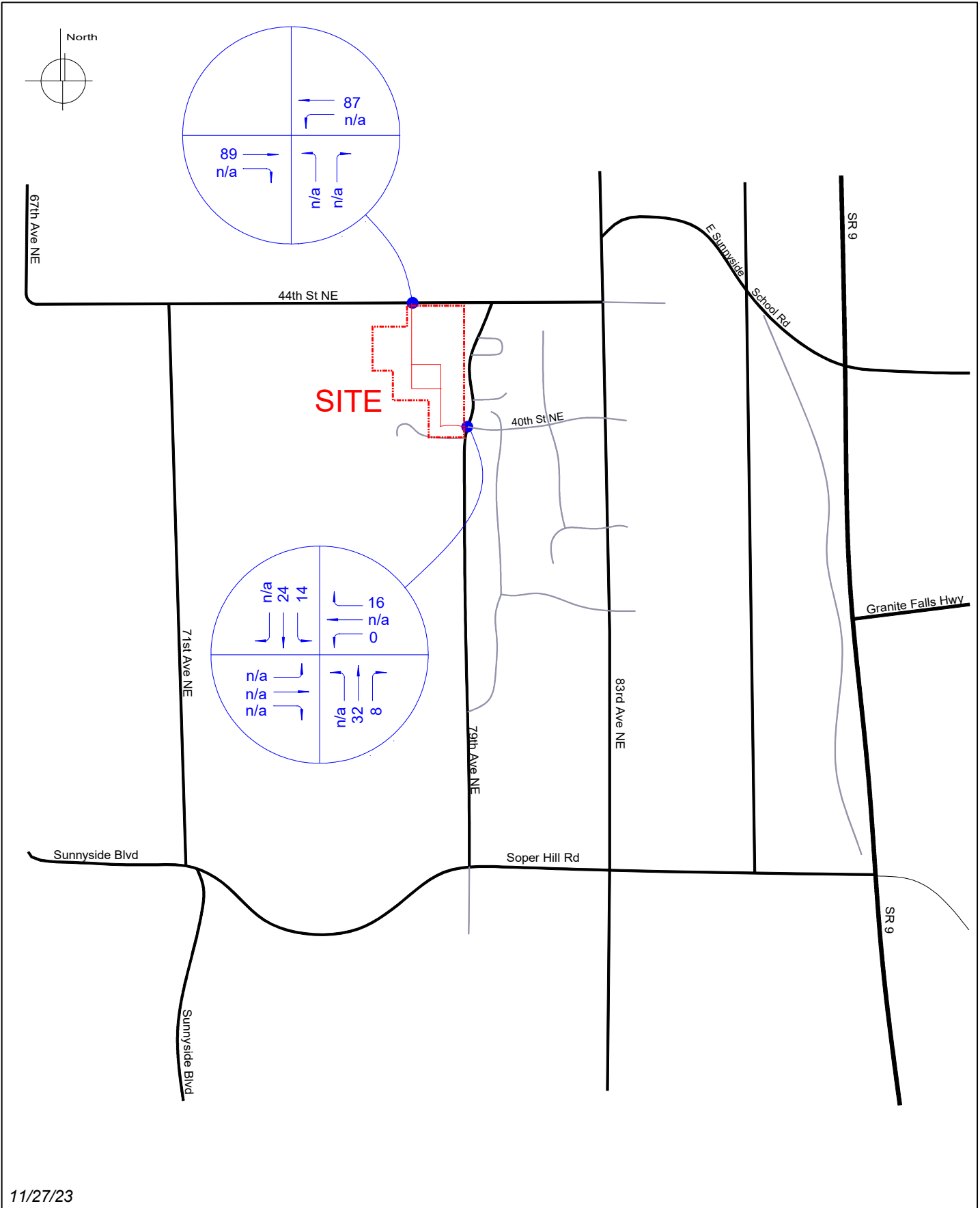
Weekday PM Peak Hour turning movement counts were conducted in November of 2022 at the following four intersections:

1. Soper Hill Road/Sunnyside Boulevard
2. Soper Hill Road/79th Avenue NE
3. 44th St NE/79th Avenue NE
4. 44th St NE/71st Avenue NE

All counts were conducted between 4:00 PM and 6:00 PM. The peak hour was found to be between 4:00 PM and 5:00 PM for all intersections. The percent truck/busses were also recorded by approach, as well as pedestrian activity. Based on the project trip assignment, no off-site intersections were found to be impacted by 25 or more PM peak hour project trips. Figure 3 shows the PM peak hour volume on the major street at the two future site access intersections.

PROJECT TRIP GENERATION

Trip generation rates, for the project, are based on the *ITE Trip Generation Manual 11th Edition*. The project is comprised of 49 single family detached residential homes. The trip generation is based on rates per Land Use Code (LUC) 210. Per ITE definitions, Land Use Code 210, Single-Family Detached Housing (sfdu), is defined as a single-family detached housing site that includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision. Even though these proposed lots are relatively small, this analysis does not use the newly defined “patio home” ITE definition for this project.



11/27/23

| | | |
|--------------------------------------|---|---|
| <p>DN TRAFFIC CONSULTANTS</p> | <p>EXISTING PM PEAK HOUR VOLUMES</p> <p>Figure 3</p> | <p>CREEKSIDE VILLAGE 49 units (SFDU's)</p> |
|--------------------------------------|---|---|

The property currently has two (2) existing single family detached homes on it. Trip generation rates for single family detached housing is also based on ITE LUC 210. Trip generation for the existing units, since they will not remain, are deducted from the site generated traffic volume.

Table 1 identifies project vehicular trip generation for the average weekday (24-hour) volume as well as the AM and PM peak hour volumes. The AM peak hours are assumed to occur between 7 AM and 9 AM whereas the PM peak hour occurs between 4 PM and 6 PM.

Table 1. Project Trip Generation

| | AWDT | AM Peak | | | PM Peak | | |
|---|------|---------|-----|-----|---------|-----|-----|
| | | Total | In | Out | Total | In | Out |
| 49 Single Family Homes ¹ | | | | | | | |
| ITE LUC 210: Single-Family Detached Housing | | | | | | | |
| Rates | 9.43 | 0.7 | 26% | 74% | 0.94 | 63% | 37% |
| 49 units | 462 | 34 | 9 | 25 | 46 | 29 | 17 |
| Existing Use ² | | | | | | | |
| ITE LUC 210: Single Family Dwelling Units | | | | | | | |
| Rates | 9.43 | 0.7 | 26% | 74% | 0.94 | 63% | 37% |
| 2 SFDU's | -19 | -1 | 0 | -1 | -2 | -1 | -1 |
| NET NEW ³ | | | | | | | |
| | 443 | 33 | 9 | 24 | 44 | 28 | 16 |

a per ITE Trip Generation 11th Edition; LUC 210.
 b The site has two existing home currently occupied that will be removed
 c NET NEW is the estimated project trips minus the existing site use trips.

As shown in Table 1, the project is estimated to generate a total of 462 daily trips, 34 AM peak hour and 46 PM peak hour trips. This volume of PM peak hour trips is estimated to be added to the street network in the 2024 horizon year. The net new trips, as a result of site redevelopment would result in 443 daily, 33 AM, and 44 PM peak hour trips on the surrounding street system.

Trip Distribution/Traffic Assignment

The trip distribution/traffic assignment for the project was based on the traffic distribution percentages provided by the City of Marysville. This analysis assumes a trip distribution pattern for the Year of Opening (2024) condition, as well as one for the Horizon Year (2030) condition. A summary of each is presented below.

Year of Opening (2024) Distribution Percentages:

| | | |
|------------------------------|---|------|
| • 67 th Street NE | to/from the northwest | 41% |
| • 83 rd Avenue NE | to/from the north | 4% |
| • Local area | southwest area (71 st and 79 th) | 1% |
| • Sunnyside Boulevard | to/from the southwest | 31% |
| • SR 9 | to/from the south | 17% |
| • Soper Hill Road | to/from east of SR 9 | 2% |
| • <u>SR 92</u> | to/from east of SR 9 | 4% |
| <hr/> | | |
| Total | | 100% |

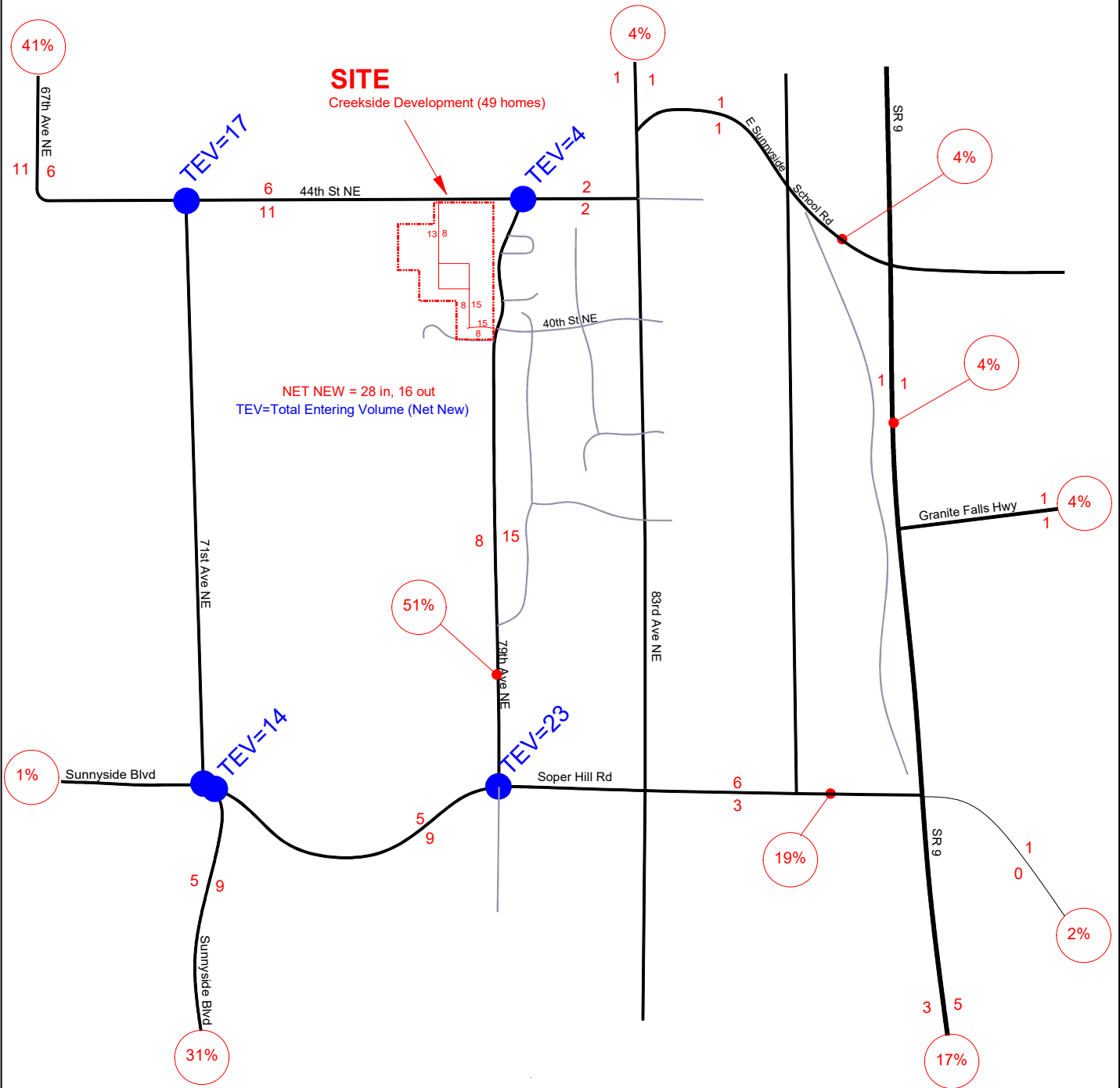
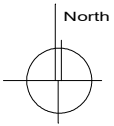
Horizon Year (2030) Distribution Percentages:

| | | |
|---|-----------------------|------|
| • 67 th Street NE (via 44 th Street NE) | to/from the northwest | 20% |
| • 67 th Street NE (via new 40 th Street NE) | to/from the northwest | 21% |
| • 83 rd Avenue NE | to/from the north | 4% |
| • local area | southwest area | 1% |
| • Sunnyside Boulevard | to/from the southwest | 31% |
| • SR 9 | to/from the south | 17% |
| • Soper Hill Road | to/from east of SR 9 | 2% |
| • <u>SR 92</u> | to/from east of SR 9 | 4% |
| <hr/> | | |
| Total | | 100% |

Based on the overall percentages, it was determined that approximately 60 percent of the project trips would have origins and destinations east and south of the site, and 40 percent would have origins and destinations northwest of the site.

The project traffic assignment for the Year of Opening (2024) is presented in Figure 4, and the project traffic assignment for the Horizon Year (2030) is presented in Figure 5.

The interlocal agreement between the City of Marysville and Snohomish County requires detailed development trip turning movement data at Snohomish County key intersections impacted with three or more directional trips on an approach or departure. The development will impact two (2) key intersections during the AM and PM peak-hours. The AM and PM peak-hour key intersection impacts are shown in tabular form in Table 2 and 3, respectively.



11/27/23

| | | |
|--------------------------------------|--|--|
| <p>DN TRAFFIC CONSULTANTS</p> | <p align="center">PROJECT TRIP DISTRIBUTION & ASSIGNMENT 2024 YEAR OF OPENING (PM PEAK HOUR)</p> <p align="center">Figure 4</p> | <p align="center">CREEKSIDE VILLAGE 49 units (SFDU's)</p> |
|--------------------------------------|--|--|

Table 2: AM Peak-Hour Key Intersection Volumes (Snohomish County)

| | Intersection | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| #116: | Soper Hill Road at 71 st Avenue NE | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| #297: | SR-204 at Sunnyside Boulevard SE | 0 | 0 | 7 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| #147 | SR 9/S Lake Stevens Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 |
| #420 | SR 9/32 nd Street SE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 |

Table 3: PM Peak-Hour Key Intersection Volumes (Snohomish County)

| | Intersection | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| #116: | Soper Hill Road at 71 st Avenue NE | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 |
| #297: | SR-204 at Sunnyside Boulevard SE | 0 | 0 | 5 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 |
| #147 | SR 9/S Lake Stevens Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 |
| #420 | SR 9/32 nd Street SE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 0 |

The key intersection impacts are also shown in graphical form in Figure 6 below for the AM and PM peak-hours.

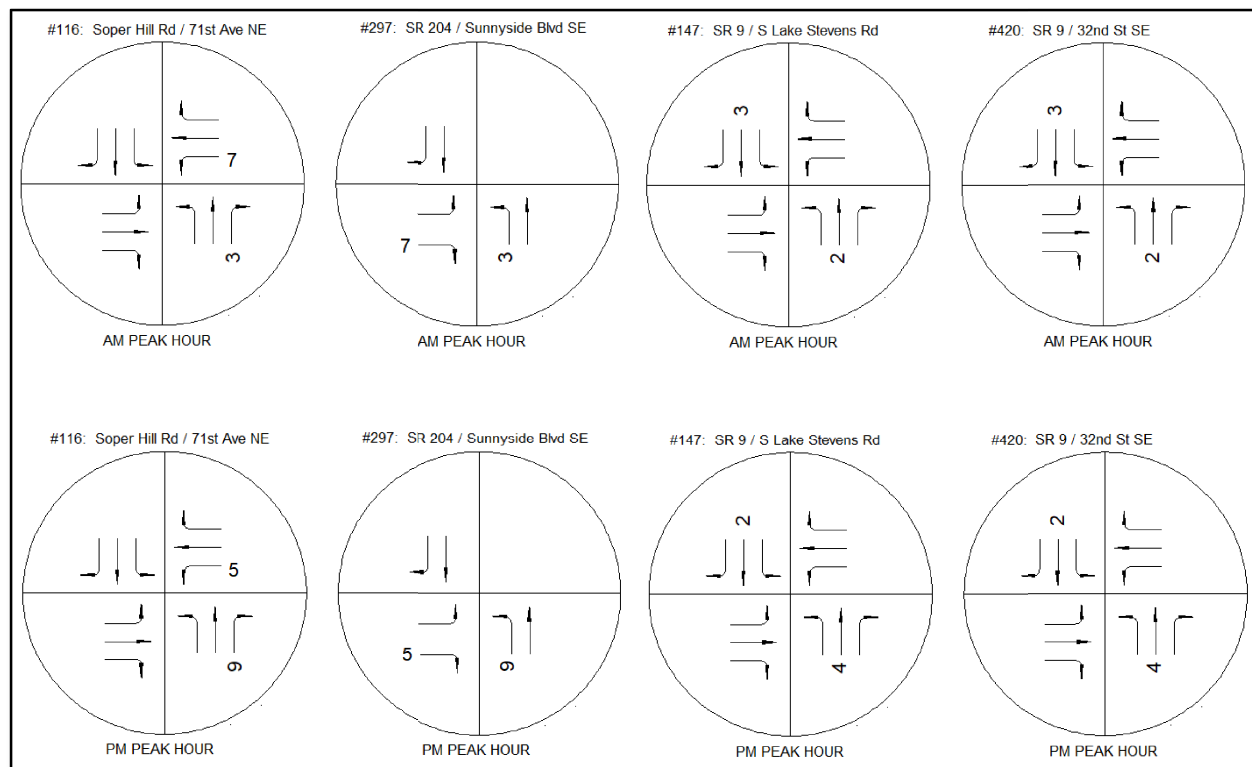


Figure 6: Snohomish County Key Intersections (north is up)

Level of Service

Level of service (LOS) is used to describe the degree of traffic congestion and driver comfort on streets or at intersections. The Highway Capacity Manual (HCM) describes the methodologies for calculating LOS on street segments and at signalized and unsignalized intersections.

According to the HCM (TRB Special Report #209), there are six (6) levels of service by which the operational performance of the roadway system may be described. The levels of service range from LOS A, which indicates a relatively free-flowing condition, to LOS F, which indicates operational breakdown.

The level of service for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Average control delay less than or equal to 10 seconds per vehicle is defined as LOS A. For LOS F, the average control delay is greater than 50 seconds per vehicle.

The level of service for an all-way stop controlled (AWSC) intersection is defined in terms of average control delay per vehicle. Level of service is defined for the intersection as a whole. Average control delay less than or equal to 10 seconds per vehicle is defined as LOS A. For LOS F, the average control delay is greater than 50 seconds per vehicle. A summary of the Level of Service Criteria is presented in Table 2.

Table 2. Level of service Criteria ¹

| Level of Service | Expected Delay | Intersection Control Delay (Seconds per Vehicle) | |
|------------------|------------------|---|---------------|
| | | Unsignalized | Signalized |
| A | Little/No Delay | ≤ 10 | ≤ 10 |
| B | Short Delays | > 10 and ≤ 15 | > 10 and ≤ 20 |
| C | Average Delays | > 15 and ≤ 25 | > 20 and ≤ 35 |
| D | Long Delays | > 25 and ≤ 35 | > 35 and ≤ 55 |
| E | Very Long Delays | > 35 and ≤ 50 | > 55 and ≤ 80 |
| F | Extreme Delays | > 50 | > 80 |

¹ per Highway Capacity Manual (HCM)

Level of service (LOS) for this report was calculated using Synchro, the intersection level of service based on the HCM 6. The result of the level of service analysis for the existing condition at the analysis intersections is shown in Table 3.

Table 3. 2022 PM Peak Hour Level of Service ¹

| Intersection | Traffic Control | Total Entering Volume | PM Peak Hour | |
|---|-----------------|-----------------------|--------------|-------|
| | | | LOS | Delay |
| 44th Street NE / North Site Access | future | n/a | n/a | n/a |
| 79 th Avenue NE/40 th Street NE | Stop Sign (WB) | 94 | A | 8.7 |

¹ Based on HCM 6 LOS report

As shown in Table 3, the side street approach LOS at the 79th Avenue NE/40th Street NE intersection is shown to be LOS C or better. The City of Marysville level of service threshold is D for all functionally arterial classified streets where there are three (3 or more) project generated vehicles per hour in both directions.

FUTURE CONDITIONS

The Future Conditions analysis includes several scenarios: 1) Year of Opening (2024) with and without Project, and 2) Horizon Year (2030) with and without the project. This also includes a discussion of background traffic growth assumptions plus pipeline traffic.

Historical Growth Rate

A two (2) percent per year background growth rate, based on City input and prior traffic studies for the area, was used for this analysis.

Background Traffic Volumes (Pipeline Development)

Background traffic volumes for both future year scenarios also include PM peak hour traffic from ten (10) pipeline projects in the area. City staff provided the pipeline projects. A list of the pipeline projects included in this analysis include the following:

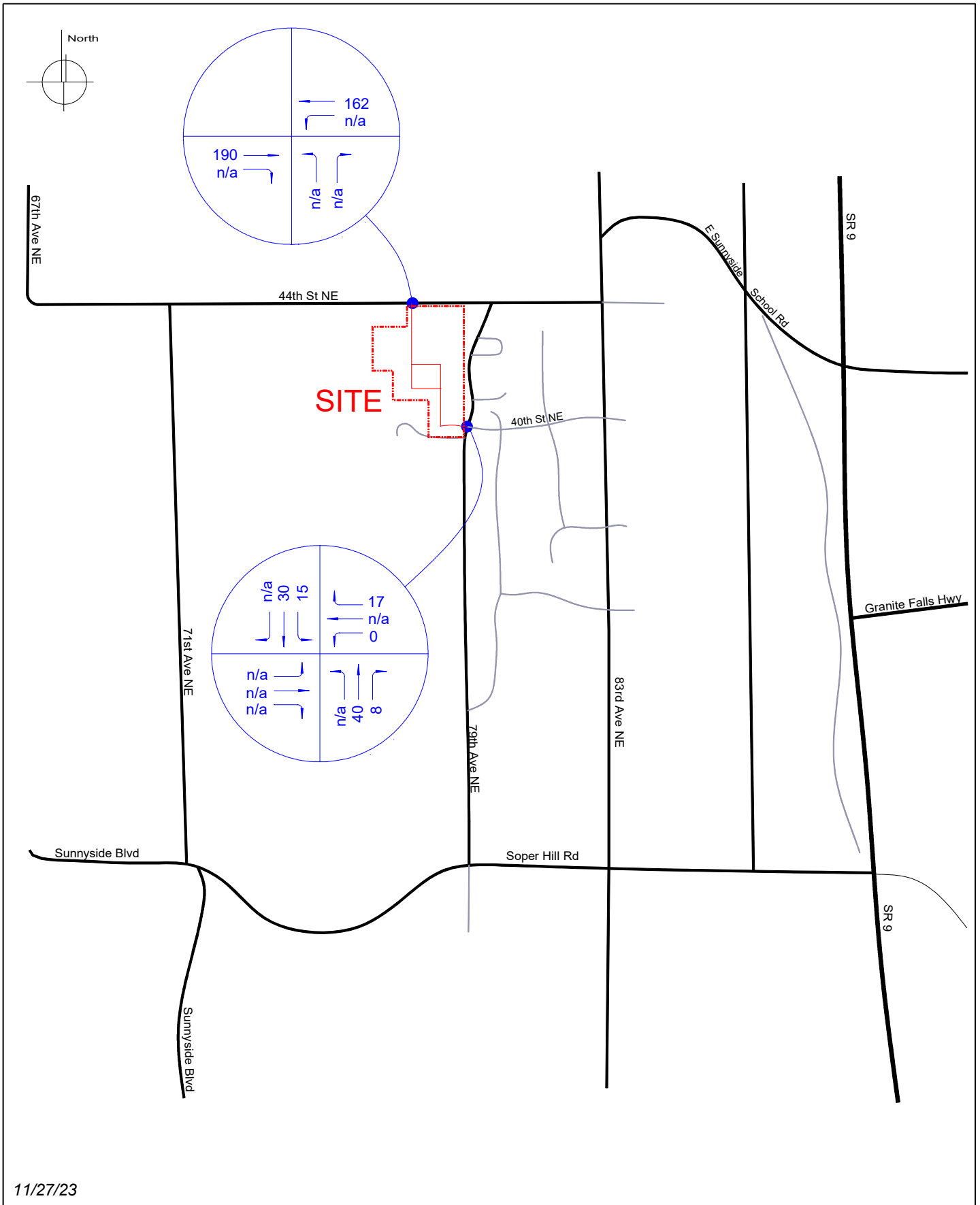
1. Maplewood Crossing
2. Prospector D2
3. White Barn
4. Firerock
5. 87th Assembly
6. Stevens Ridge
7. Inspiration Point
8. Holbrook Development
9. The Retreat
10. Wyndham Homes

Table 4 below, presents the total entering PM peak hour volume (TEV), at each of the analysis intersections, for existing, the Year of Opening (2024), and the Horizon Year (2030) conditions.

As shown in Table 4, there are no off-site intersections impacted by 25 or more PM peak hour project trips for either the Year of Opening or the Horizon Year. The north and south site access points are included in the table. The south site access is actually a realignment of the 40th Street NE west leg that will connect to the project's south access. 40th Street NE is proposed to extend west to 71st Avenue NE after the Year of Opening conditions, and before the Horizon Year conditions. Some of the project's traffic will use this new roadway once built, these trips will be to and from the northwest.

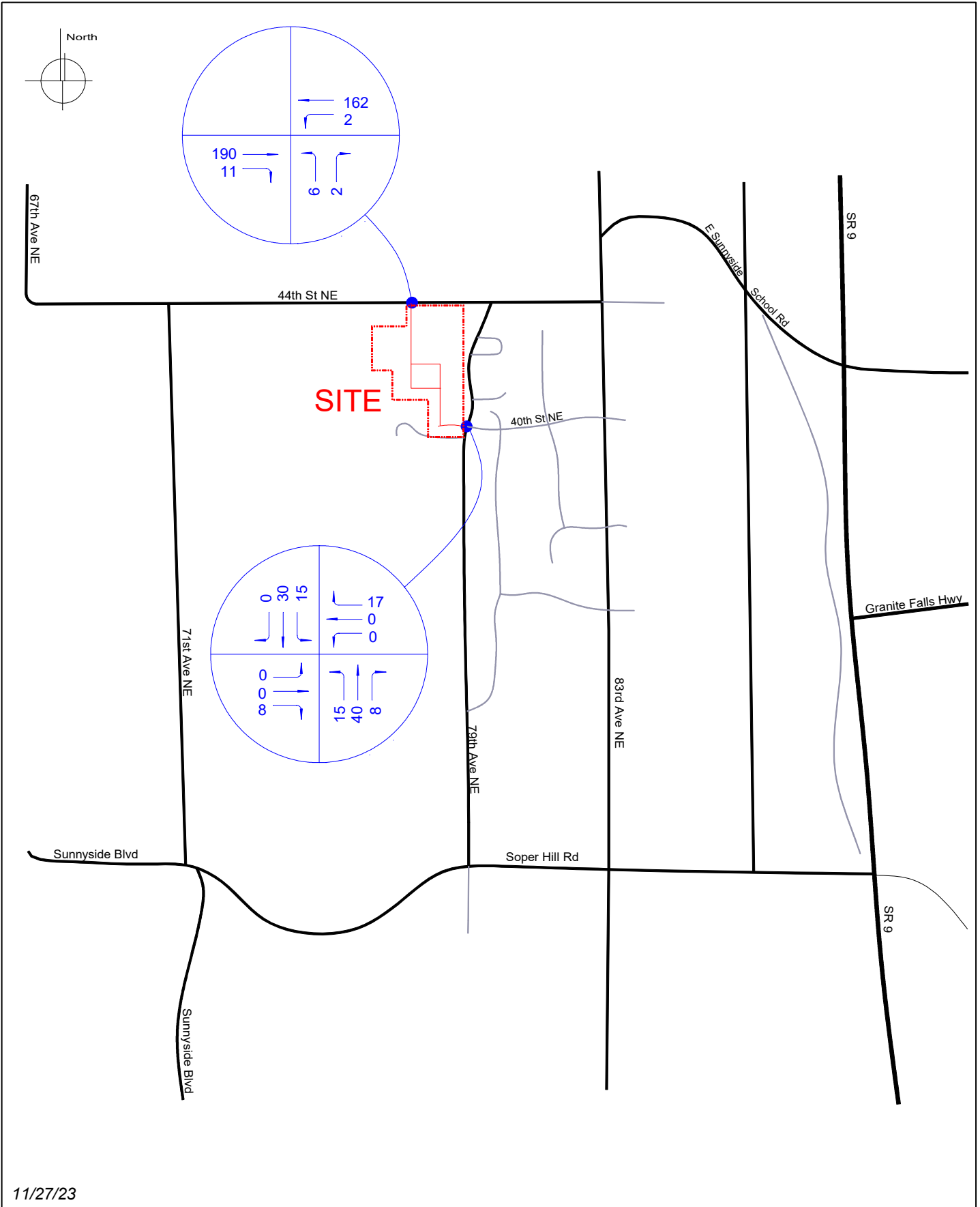
A summary of the 2024 with and without project PM peak hour turning movement volumes for each intersection are shown in Table 4, and are presented in Figures 7 and 8.

A summary of the 2030 with and without project PM peak hour turning movement volumes for each intersection are also shown in Table 4, and are presented in Figure 9 and 10.



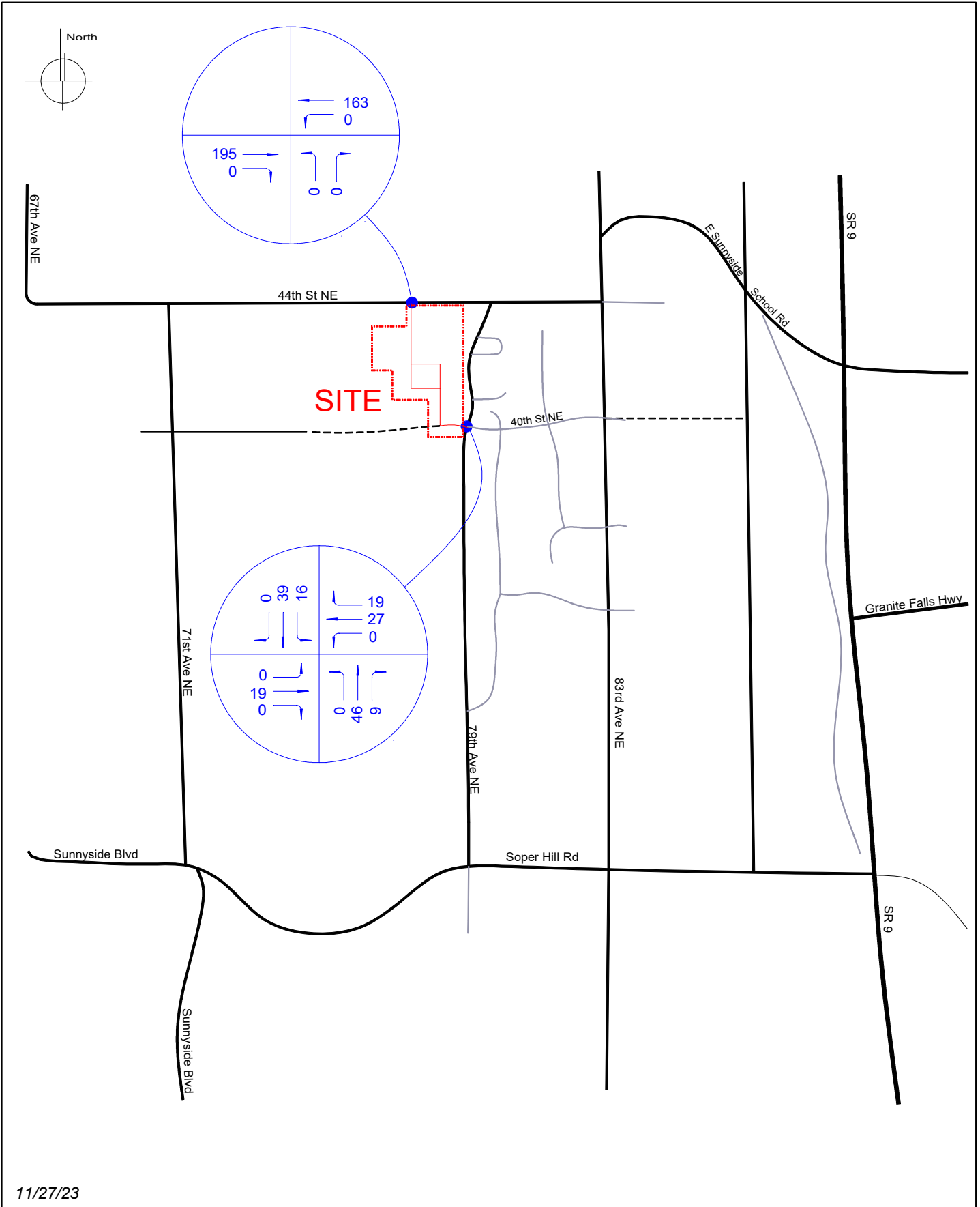
11/27/23

| | | |
|--------------------------------------|--|---|
| <p>DN TRAFFIC CONSULTANTS</p> | <p>2024 YEAR OF OPENING (without Project)</p> <p>Figure 7</p> | <p>CREEKSIDE VILLAGE 49 units (SFDU's)</p> |
|--------------------------------------|--|---|



11/27/23

| | | |
|--------------------------------------|---|--|
| <p>DN TRAFFIC CONSULTANTS</p> | <p>2024 YEAR OF OPENING (with Project)</p> <p>Figure 8</p> | <p>CREEKSIDE VILLAGE</p> <p>49 units (SFDU's)</p> |
|--------------------------------------|---|--|



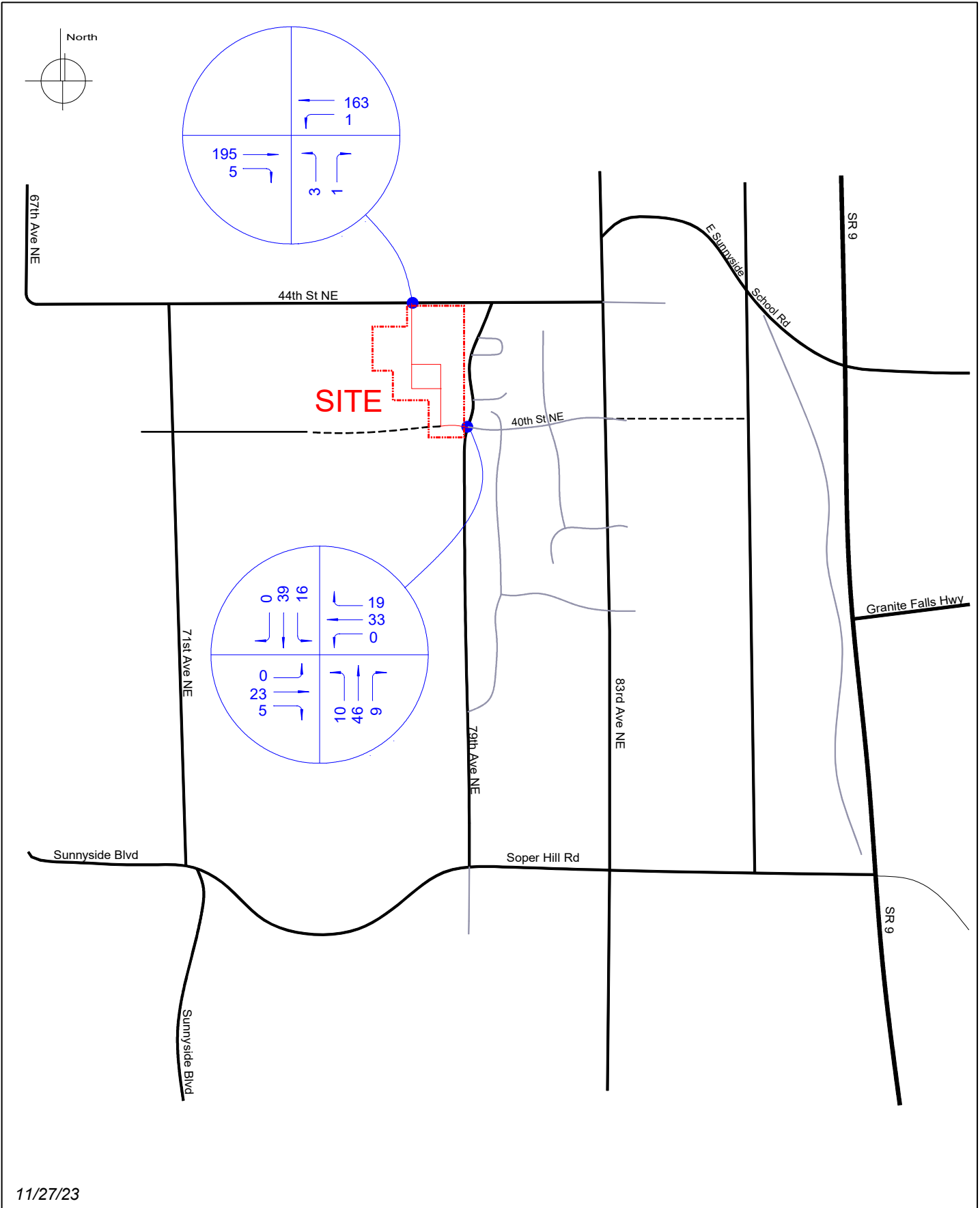
11/27/23

DN TRAFFIC CONSULTANTS

2030 HORIZON YEAR (without Project)

CREEKSIDE VILLAGE
49 units (SFDU's)

Figure 9



11/27/23

DN TRAFFIC CONSULTANTS

2030 HORIZON YEAR (with Project)

CREEKSIDE VILLAGE
49 units (SF DU's)

Figure 10

Table 4. 2022 PM Peak Hour TEV ¹

| Intersection | 2022 PM Peak | Year of Opening (2024) PM Peak Hour TEV | | | | |
|--|--------------|---|------------------|---------------------|-----------------|------------------|
| | | Background Growth (2022-2024) | Pipeline Traffic | TEV without Project | Project Traffic | TEV with Project |
| 44th Street NE / North Site Access | 176 | 8 | 168 | 352 | 21 | 373 |
| 79th Avenue NE/40th Street NE ² | 94 | 4 | 12 | 110 | 23 | 133 |
| Intersection | 2022 PM Peak | Horizon Year (2030) PM Peak Hour TEV | | | | |
| | | Background Growth (2022-2030) | Pipeline Traffic | TEV without Project | Project Traffic | TEV with Project |
| 44th Street NE / North Site Access | 176 | 30 | 152 | 358 | 10 | 368 |
| 79th Avenue NE/40th Street NE ³ | 94 | 15 | 66 | 175 | 25 | 200 |

- 1 TEV = Total Entering Vehicles
- 2 Assumes realignment of the west leg to align with the existing east leg. 40th Street NE does not extend west beyond the project property
- 3 Assumes realignment of the west leg to align with the existing east leg, and extension of 40th Street NE west to 71st Avenue NE. Background traffic includes only traffic from pipeline development. Eleven of the project trips enter the site at the south end via the new westerly extension of 40th Street NE.

Level of Service

A PM peak hour level of service analysis was conducted for the existing 2022 conditions, as well as the 2024 Year of Opening with and without the project based on existing intersection striping and traffic control, and peak-hour factors and heavy vehicle factors per the existing turning movement counts.

The 2024 Year of Opening level of service conditions for the PM peak hour at the analysis intersections are shown in Table 5.

Table 5. 2024 Year of Opening PM Peak Hour Level of Service ¹

| Intersection Name | 2024 PM Peak Hour without Project | | 2024 PM Peak Hour with Project | |
|---|-----------------------------------|-------|--------------------------------|-------|
| | LOS | Delay | LOS | Delay |
| 44 th Street NE / North Site Access | n/a | n/a | B | 10.7 |
| 79 th Avenue NE / 40 th Street NE / South Site Access Extension | A | 8.7 | A | 8.8 |

¹ Based on HCM 6 LOS report

As shown in Table 5, the side street approach LOS at the intersections shown is LOS C or better.

For the Horizon Year (2030), the PM peak hour level of service analysis summary is shown in Table 6. The analyses were conducted only for the site access locations since no off-site intersection was impacted by 25 or more PM peak hour project trips.

Table 6. 2030 Horizon Year PM Peak Hour Level of Service ¹

| Intersection Name | 2030 PM Peak Hour without Project | | 2030 PM Peak Hour with Project | |
|---|-----------------------------------|-------|--------------------------------|-------|
| | LOS | Delay | LOS | Delay |
| 44 th Street NE / North Site Access | n/a | n/a | B | 10.7 |
| 79 th Avenue NE / 40 th Street NE | B | 10.5 | B | 10.6 |
| 40 th Street NE / South Site Access | n/a | n/a | A | 8.9 |

¹ Based on HCM 6 LOS report

As shown in Table 6, the side street approach LOS at the intersections shown are LOS B or better. There are planned improvements to widen 44th Street NE to a three (3) -lane section thus the analysis at the north site access assumes this as constructed. For the Horizon Year, 40th Street NE is assumed to be connected between 71st Avenue NE and 79th Avenue NE. The west leg of 40th Street NE at 79th Avenue NE is assumed to be constructed as part of the site development with 40th Street NE extending to the south site access. The future extension of 40th Street NE to the west includes all pipeline traffic as identified in the 10 traffic studies for those developments.

MITIGATION MEASURES

The following list is a summary of mitigation evaluations for the City of Marysville as well as surrounding agencies that have an interlocal agreement with the City. The City of Marysville has an interlocal agreement with Snohomish County that provides for the payment of traffic mitigation fees to Snohomish County for City of Marysville developments. The City of Marysville also has an agreement with WSDOT for the payment of traffic mitigation fees. The City of Marysville and the City of Lake Stevens have an interlocal agreement for mitigation fees for impacts along Soper Hill Road.

City of Marysville

The City of Marysville standard traffic mitigation fees have been calculated using the residential rate of \$6,300 per new unit. The Creekside development is proposed to have 49 new single-family residential units, however, there are two existing homes that will be removed; thus, the net new number of units is 47. This results in a City of Marysville traffic mitigation fee of \$296,100 (6,300 * 47 = 296,100).

City of Lake Stevens

The City of Marysville and the City of Lake Stevens have an interlocal agreement to fund improvements to Soper Hill Road from SR-9 to 83rd Avenue NE. The intersection of Soper Hill Road at 83rd Avenue NE has already been improved. Traffic mitigation fees are therefore only required to be paid for impacts to the intersection of Soper Hill Road and 87th Avenue NE. The Soper Hill Road and 87th Avenue NE intersection project has a trip mitigation fee of \$1,700.00 per PM peak-hour trip. The Creekside Village development is expected to impact the Soper Hill Road/87th Avenue NE intersection with one (1) PM peak-hour trip in the Horizon Year. This results in a fee of \$1,700 for Creekside Village’s impact at that intersection. It should be noted that the development would not be subject to these fees if another development has been conditioned to construct the 87th Avenue NE roundabout prior to when this fee is due.

Snohomish County

The City of Marysville and Snohomish County have an interlocal agreement that provides for the payment of traffic mitigation for impacts to Snohomish County roadways by City of Marysville developments. Traffic mitigation fees are based on predetermined area impacts or impacts to actual improvement projects. According to Section 3(a)2 of the *Snohomish County Traffic Worksheet and Traffic Study Requirements for Developments in the City of Marysville*, City of Marysville developments are only required to pay traffic mitigation fees for improvements in the Transportation Needs Report impacted with three directional peak-hour trips. The trip distribution shows that trips generated by the Creekside Village development will not impact any Snohomish County improvement projects in the Transportation Needs Report with three or more directional PM peak-hour trips. Therefore, Snohomish County traffic mitigation fees would not be required for the subject development.

Washington State Department of Transportation (WSDOT)

Developments are only required to mitigate impacts to improvement projects identified on WSDOT's Exhibit C list if the development is expected to impact the project with three or more directional PM peak-hour trips and if the improvement project has not already been completed or advertised for construction. Trips generated by the Creekside Village development are not expected to impact any WSDOT improvement projects on the Exhibit C list with three or more directional PM peak-hour trips. Therefore, WSDOT traffic mitigation fees would not be required for the subject development.

CONCLUSIONS

The Creekside Village development is proposed to construct 49 single-family residential units. As part of the site development, two (2) existing homes will be removed.

The development is estimated to generate 462 average daily trips with 34 AM peak-hour trips and 46 PM peak-hour trips. As a result of site redevelopment and removal of the two (2) existing homes, the estimated net new trips impacting the surrounding street system is 443 daily, 33 AM, and 44 PM peak hour trips.

For the 2024 Year of Opening condition as well as the Horizon Year condition, the project does not impact any of the arterial intersections with 25 more trips.

The traffic mitigation fees due to the City of Marysville traffic are estimated to be \$296,100. These traffic mitigation fees are presumed to help fund the improvements to 44th Street NE. The traffic mitigation fees due to the City of Lake Stevens are estimated to be \$1,700. Traffic mitigation fees are estimated to be zero for impacts to Snohomish County and WSDOT critical locations.

It is important to note as a result of this project frontage on both 40th Street NE as well as 44th Street NE, the Creekside Village development would be eligible for Traffic Impact Fee (TIF) credits for the future planned improvements of these two roadways.

TECHNICAL APPENDIX

Intersection Turning Movement Volumes (PM Peak Hour)

**44th Street NE / North Site Access
79th Avenue NE / 40th Street NE plus South Site Access Extension
40th Street NE / South Site Access (Horizon Year Analysis only)**

Pipeline Project Trips (PM Peak Hour)

**Maplewood Crossing
Prospector D2
White Barn
Firerock
87th Assembly
Stevens Ridge
Inspiration Point
Holbrook Development
The Retreat
Wyndham Homes**

PM Peak Hour Level of Service Results

**2022 Existing
2024 with and without Project (Year of Opening)
2030 with and without Project (Horizon Year)
PM Peak Hour Level of Service Results**

City of Marysville Trip Distribution Figures

**Whiskey Ridge West Existing (aka Year of Opening)
Whiskey Ridge West Horizon (aka Horizon Year)**

Creekside
Year of Opening PM Peak Hour Turn Movements (Year 2024)

44th Street NE / North Site Access

PM Peak Hour: 4:00 PM - 5:00 PM

Date Collected (thru volumes): 11/7/2022

| | 2022 PM Peak | Peak Hour Factor | Percent Trucks/Busses | Background Growth 2022-2024 | 2024 Background Traffic (Year of Opening) | Pipeline Development | 2024 Year of Opening w/o Proj | Creekside Village (Net New) Year of Opening | 2024 PM with Project |
|------|--------------|------------------|-----------------------|-----------------------------|---|----------------------|-------------------------------|---|----------------------|
| EBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| EBT | 89 | 0.89 | 3.35 | 4 | 93 | 97 | 190 | | 190 |
| EBRT | 0 | | | 0 | 0 | | 0 | 11 | 11 |
| WBLT | 0 | | | 0 | 0 | | 0 | 2 | 2 |
| WBT | 87 | 0.82 | 6.25 | 4 | 91 | 71 | 162 | | 162 |
| WBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| NBLT | 0 | | | 0 | 0 | | 0 | 6 | 6 |
| NBT | 0 | 0.00 | 0.00 | 0 | 0 | | 0 | | 0 |
| NBRT | 0 | | | 0 | 0 | | 0 | 2 | 2 |
| SBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| SBT | 0 | 0.00 | 0.00 | 0 | 0 | | 0 | | 0 |
| SBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| | 176 | | | 8 | 184 | 168 | 352 | 21 | 373 |

79th Avenue NE/40th Street NE

PM Peak Hour: 4:00 PM - 5:00 PM

Date Collected: 11/7/2022

| | 2022 PM Peak | Peak Hour Factor | Percent Trucks/Busses | Background Growth 2022-2024 | 2024 Background Traffic (Year of Opening) | Pipeline Development | 2024 Year of Opening w/o Proj | Creekside Village (Net New) Year of Opening | 2024 PM with Project |
|------|--------------|------------------|-----------------------|-----------------------------|---|----------------------|-------------------------------|---|----------------------|
| EBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| EBT | 0 | 0.00 | 0.00 | 0 | 0 | | 0 | | 0 |
| EBRT | 0 | | | 0 | 0 | | 0 | 8 | 8 |
| WBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| WBT | 0 | 0.53 | 0.00 | 0 | 0 | | 0 | | 0 |
| WBRT | 16 | | | 1 | 17 | | 17 | | 17 |
| NBLT | 0 | | | 0 | 0 | | 0 | 15 | 15 |
| NBT | 32 | 0.52 | 22.50 | 1 | 33 | 7 | 40 | | 40 |
| NBRT | 8 | | | 0 | 8 | | 8 | | 8 |
| SBLT | 14 | | | 1 | 15 | | 15 | | 15 |
| SBT | 24 | 0.81 | 0.00 | 1 | 25 | 5 | 30 | | 30 |
| SBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| | 94 | | | 4 | 98 | 12 | 110 | 23 | 133 |

Creekside
Horizon Year PM Peak Hour Turn Movements (Year 2030)

44th Street NE / North Site Access
PM Peak Hour: 4:00 PM - 5:00 PM
Date Collected (thru volumes): 11/7/2022

| | 2022 PM Peak | Peak Hour Factor | Percent Trucks/Busses | Background Growth 2022-2030 | 2030 Background Traffic (Horizon Year) | Pipeline Development | 2030 Horizon Year w/o Proj | Creekside Village (Net New) Horizon Year | 2030 PM with Project |
|------|--------------|------------------|-----------------------|-----------------------------|--|----------------------|----------------------------|--|----------------------|
| EBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| EBT | 89 | 0.89 | 3.35 | 15 | 104 | 91 | 195 | | 195 |
| EBRT | 0 | | | 0 | 0 | | 0 | 5 | 5 |
| WBLT | 0 | | | 0 | 0 | | 0 | 1 | 1 |
| WBT | 87 | 0.82 | 6.25 | 15 | 102 | 61 | 163 | | 163 |
| WBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| NBLT | 0 | | | 0 | 0 | | 0 | 3 | 3 |
| NBT | 0 | 0.00 | 0.00 | 0 | 0 | | 0 | | 0 |
| NBRT | 0 | | | 0 | 0 | | 0 | 1 | 1 |
| SBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| SBT | 0 | 0.00 | 0.00 | 0 | 0 | | 0 | | 0 |
| SBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| | 176 | | | 30 | 206 | 152 | 358 | 10 | 368 |

79th Avenue NE/40th Street NE
PM Peak Hour: 4:00 PM - 5:00 PM
Date Collected: 11/7/2022

| | 2022 PM Peak | Peak Hour Factor | Percent Trucks/Busses | Background Growth 2022-2030 | 2030 Background Traffic (Horizon Year) | Pipeline Development | 2030 Horizon Year w/o Proj | Creekside Village (Net New) Horizon Year | 2030 PM with Project |
|------|--------------|------------------|-----------------------|-----------------------------|--|----------------------|----------------------------|--|----------------------|
| EBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| EBT | 0 | 0.00 | 0.00 | 0 | 0 | 19 | 19 | 4 | 23 |
| EBRT | 0 | | | 0 | 0 | | 0 | 5 | 5 |
| WBLT | 0 | | | 0 | 0 | | 0 | | 0 |
| WBT | 0 | 0.53 | 0.00 | 0 | 0 | 27 | 27 | 6 | 33 |
| WBRT | 16 | | | 3 | 19 | | 19 | | 19 |
| NBLT | 0 | | | 0 | 0 | | 0 | 10 | 10 |
| NBT | 32 | 0.52 | 22.50 | 5 | 37 | 9 | 46 | | 46 |
| NBRT | 8 | | | 1 | 9 | | 9 | | 9 |
| SBLT | 14 | | | 2 | 16 | | 16 | | 16 |
| SBT | 24 | 0.81 | 0.00 | 4 | 28 | 11 | 39 | | 39 |
| SBRT | 0 | | | 0 | 0 | | 0 | | 0 |
| | 94 | | | 15 | 109 | 66 | 175 | 25 | 200 |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | ↔ | | ↔ | | ↔ | | | ↔ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 32 | 8 | 14 | 24 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 32 | 8 | 14 | 24 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 100 | - | 0 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 53 | 53 | 53 | 52 | 52 | 52 | 81 | 81 | 81 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 | 23 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 62 | 15 | 17 | 30 | 0 |

| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|----------------|
| Conflicting Flow All | 134 | - 70 | - 0 0 77 0 0 |
| Stage 1 | 70 | - - | - - - - - |
| Stage 2 | 64 | - - | - - - - - |
| Critical Hdwy | 6.4 | - 6.2 | - - - 4.1 - - |
| Critical Hdwy Stg 1 | 5.4 | - - | - - - - - |
| Critical Hdwy Stg 2 | 5.4 | - - | - - - - - |
| Follow-up Hdwy | 3.5 | - 3.3 | - - - 2.2 - - |
| Pot Cap-1 Maneuver | 864 | 0 998 | 0 - - 1535 - 0 |
| Stage 1 | 958 | 0 - | 0 - - - - 0 |
| Stage 2 | 964 | 0 - | 0 - - - - 0 |
| Platoon blocked, % | | | - - - |
| Mov Cap-1 Maneuver | 854 | 0 998 | - - - 1535 - - |
| Mov Cap-2 Maneuver | 854 | 0 - | - - - - - |
| Stage 1 | 958 | 0 - | - - - - - |
| Stage 2 | 953 | 0 - | - - - - - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.7 | 0 | 2.7 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL | SBT |
|-----------------------|-----|----------|--------|-------|-----|
| Capacity (veh/h) | - | - | - 998 | 1535 | - |
| HCM Lane V/C Ratio | - | - | - 0.03 | 0.011 | - |
| HCM Control Delay (s) | - | - | 0 8.7 | 7.4 | 0 |
| HCM Lane LOS | - | - | A A | A | A |
| HCM 95th %tile Q(veh) | - | - | - 0.1 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | ↶ | | ↶ | | ↶ | | | ↶ | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 32 | 8 | 14 | 24 | 0 |
| Future Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 32 | 8 | 14 | 24 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 100 | - | 0 | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 53 | 53 | 53 | 52 | 52 | 52 | 81 | 81 | 81 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 | 23 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 62 | 15 | 17 | 30 | 0 |

| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|----------------|
| Conflicting Flow All | 134 | - 70 | - 0 0 77 0 0 |
| Stage 1 | 70 | - - | - - - - - |
| Stage 2 | 64 | - - | - - - - - |
| Critical Hdwy | 6.4 | - 6.2 | - - - 4.1 - - |
| Critical Hdwy Stg 1 | 5.4 | - - | - - - - - |
| Critical Hdwy Stg 2 | 5.4 | - - | - - - - - |
| Follow-up Hdwy | 3.5 | - 3.3 | - - - 2.2 - - |
| Pot Cap-1 Maneuver | 864 | 0 998 | 0 - - 1535 - 0 |
| Stage 1 | 958 | 0 - | 0 - - - - 0 |
| Stage 2 | 964 | 0 - | 0 - - - - 0 |
| Platoon blocked, % | | | - - - |
| Mov Cap-1 Maneuver | 854 | 0 998 | - - - 1535 - - |
| Mov Cap-2 Maneuver | 854 | 0 - | - - - - - - |
| Stage 1 | 958 | 0 - | - - - - - - |
| Stage 2 | 953 | 0 - | - - - - - - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.7 | 0 | 2.7 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL | SBT |
|-----------------------|-----|----------|--------|-------|-----|
| Capacity (veh/h) | - | - | - 998 | 1535 | - |
| HCM Lane V/C Ratio | - | - | - 0.03 | 0.011 | - |
| HCM Control Delay (s) | - | - | 0 8.7 | 7.4 | 0 |
| HCM Lane LOS | - | - | A A | A | A |
| HCM 95th %tile Q(veh) | - | - | - 0.1 | 0 | - |

HCM 6th TWSC
 2: 79th Ave NE & Site Access (temp)/40th St NE

11/28/2023

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↶ | ↷ | | ↶ | ↷ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 8 | 0 | 0 | 17 | 15 | 40 | 8 | 15 | 30 | 0 |
| Future Vol, veh/h | 0 | 0 | 8 | 0 | 0 | 17 | 15 | 40 | 8 | 15 | 30 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | 100 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 53 | 53 | 53 | 52 | 52 | 52 | 81 | 81 | 81 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 | 23 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 0 | 9 | 0 | 0 | 32 | 29 | 77 | 15 | 19 | 37 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-----|--------|-----|--------|-----|-------|--------|---|------|---|---|
| Conflicting Flow All | 234 | 225 | 37 | 223 | 218 | 85 | 37 | 0 | 0 | 92 | 0 | 0 |
| Stage 1 | 75 | 75 | - | 143 | 143 | - | - | - | - | - | - | - |
| Stage 2 | 159 | 150 | - | 80 | 75 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.33 | - | - | 4.1 | - | - |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 | 2.407 | - | - | 2.2 | - | - |
| Pot Cap-1 Maneuver | 725 | 678 | 1041 | 737 | 684 | 980 | 1448 | - | - | 1515 | - | - |
| Stage 1 | 939 | 836 | - | 865 | 782 | - | - | - | - | - | - | - |
| Stage 2 | 848 | 777 | - | 934 | 836 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 683 | 655 | 1041 | 712 | 661 | 980 | 1448 | - | - | 1515 | - | - |
| Mov Cap-2 Maneuver | 683 | 655 | - | 712 | 661 | - | - | - | - | - | - | - |
| Stage 1 | 919 | 825 | - | 847 | 766 | - | - | - | - | - | - | - |
| Stage 2 | 803 | 761 | - | 914 | 825 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|-----|-----|-----|
| HCM Control Delay, s | 8.5 | 8.8 | 1.8 | 2.5 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1448 | - | - | - | 1041 | - | 980 | 1515 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | - | - | 0.008 | - | 0.033 | 0.012 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | - | 0 | 8.5 | 0 | 8.8 | 7.4 | 0 | - |
| HCM Lane LOS | A | A | - | A | A | A | A | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0 | - | 0.1 | 0 | - | - |

HCM 6th TWSC
 3: North Site Access & 44th St NE

11/28/2023

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 190 | 11 | 2 | 162 | 6 | 2 |
| Future Vol, veh/h | 190 | 11 | 2 | 162 | 6 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 100 | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 89 | 89 | 82 | 82 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 6 | 6 | 0 | 0 |
| Mvmt Flow | 213 | 12 | 2 | 198 | 7 | 2 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 225 | 0 | 421 |
| Stage 1 | - | - | - | - | 219 |
| Stage 2 | - | - | - | - | 202 |
| Critical Hdwy | - | - | 4.16 | - | 6.4 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 |
| Follow-up Hdwy | - | - | 2.254 | - | 3.5 |
| Pot Cap-1 Maneuver | - | - | 1320 | - | 593 |
| Stage 1 | - | - | - | - | 822 |
| Stage 2 | - | - | - | - | 837 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1320 | - | 592 |
| Mov Cap-2 Maneuver | - | - | - | - | 592 |
| Stage 1 | - | - | - | - | 822 |
| Stage 2 | - | - | - | - | 835 |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 0.1 | 10.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 637 | - | - | 1320 | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.002 | - |
| HCM Control Delay (s) | 10.7 | - | - | 7.7 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

HCM 6th TWSC
 2: 79th Ave NE & Site Access (temp)/40th St NE

01/20/2023

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↶ | ↷ | | ↶ | ↷ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 19 | 0 | 0 | 27 | 0 | 0 | 46 | 9 | 16 | 39 | 0 |
| Future Vol, veh/h | 0 | 19 | 0 | 0 | 27 | 0 | 0 | 46 | 9 | 16 | 39 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | 100 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 53 | 53 | 53 | 52 | 52 | 52 | 81 | 81 | 81 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 | 23 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 21 | 0 | 0 | 51 | 0 | 0 | 88 | 17 | 20 | 48 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-----|--------|-----|--------|-----|-------|--------|---|------|---|---|
| Conflicting Flow All | 210 | 193 | 48 | 196 | 185 | 97 | 48 | 0 | 0 | 105 | 0 | 0 |
| Stage 1 | 88 | 88 | - | 97 | 97 | - | - | - | - | - | - | - |
| Stage 2 | 122 | 105 | - | 99 | 88 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.33 | - | - | 4.1 | - | - |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 | 2.407 | - | - | 2.2 | - | - |
| Pot Cap-1 Maneuver | 752 | 706 | 1027 | 767 | 713 | 965 | 1435 | - | - | 1499 | - | - |
| Stage 1 | 925 | 826 | - | 914 | 819 | - | - | - | - | - | - | - |
| Stage 2 | 887 | 812 | - | 912 | 826 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 703 | 696 | 1027 | 742 | 703 | 965 | 1435 | - | - | 1499 | - | - |
| Mov Cap-2 Maneuver | 703 | 696 | - | 742 | 703 | - | - | - | - | - | - | - |
| Stage 1 | 925 | 814 | - | 914 | 819 | - | - | - | - | - | - | - |
| Stage 2 | 832 | 812 | - | 876 | 814 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|------|----|-----|
| HCM Control Delay, s | 10.3 | 10.5 | 0 | 2.2 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1435 | - | - | - | 696 | - | 703 | 1499 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | 0.03 | - | 0.072 | 0.013 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | 10.3 | 0 | 10.5 | 7.4 | 0 | - |
| HCM Lane LOS | A | - | - | A | B | A | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | - | 0.2 | 0 | - | - |

HCM 6th TWSC
3: North Site Access & 44th St NE

01/20/2023

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | | ↑ | ↑ | ↑ | |
| Traffic Vol, veh/h | 195 | 0 | 0 | 163 | 0 | 0 |
| Future Vol, veh/h | 195 | 0 | 0 | 163 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 100 | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 89 | 89 | 82 | 82 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 6 | 6 | 0 | 0 |
| Mvmt Flow | 219 | 0 | 0 | 199 | 0 | 0 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-----|
| Conflicting Flow All | 0 | 0 | 219 | 0 | 418 |
| Stage 1 | - | - | - | - | 219 |
| Stage 2 | - | - | - | - | 199 |
| Critical Hdwy | - | - | 4.16 | - | 6.4 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 |
| Follow-up Hdwy | - | - | 2.254 | - | 3.5 |
| Pot Cap-1 Maneuver | - | - | 1327 | - | 595 |
| Stage 1 | - | - | - | - | 822 |
| Stage 2 | - | - | - | - | 839 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1327 | - | 595 |
| Mov Cap-2 Maneuver | - | - | - | - | 595 |
| Stage 1 | - | - | - | - | 822 |
| Stage 2 | - | - | - | - | 839 |

| Approach | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0 | 0 | 0 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h) | - | - | - | 1327 | - |
| HCM Lane V/C Ratio | - | - | - | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | - | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↶ | ↷ | | ↶ | |
| Traffic Vol, veh/h | 0 | 19 | 27 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 19 | 27 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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 | 0 | 21 | 29 | 0 | 0 | 0 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 29 | 0 | - | 0 | 50 29 |
| Stage 1 | - | - | - | - | 29 - |
| Stage 2 | - | - | - | - | 21 - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | 1584 | - | - | - | 959 1046 |
| Stage 1 | - | - | - | - | 994 - |
| Stage 2 | - | - | - | - | 1002 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1584 | - | - | - | 959 1046 |
| Mov Cap-2 Maneuver | - | - | - | - | 959 - |
| Stage 1 | - | - | - | - | 994 - |
| Stage 2 | - | - | - | - | 1002 - |

| Approach | EB | WB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0 | 0 | 0 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|------|-----|-----|-----|-------|
| Capacity (veh/h) | 1584 | - | - | - | - |
| HCM Lane V/C Ratio | - | - | - | - | - |
| HCM Control Delay (s) | 0 | - | - | - | 0 |
| HCM Lane LOS | A | - | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | - |

HCM 6th TWSC
 2: 79th Ave NE & Site Access (temp)/40th St NE

11/28/2023

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 5.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↔ | ↔ | | ↔ | ↔ | | | ↔ | | | ↔ | ↔ |
| Traffic Vol, veh/h | 0 | 23 | 5 | 0 | 33 | 19 | 10 | 46 | 9 | 16 | 39 | 0 |
| Future Vol, veh/h | 0 | 23 | 5 | 0 | 33 | 19 | 10 | 46 | 9 | 16 | 39 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | 100 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 53 | 53 | 53 | 52 | 52 | 52 | 81 | 81 | 81 |
| Heavy Vehicles, % | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 23 | 23 | 0 | 0 | 0 |
| Mvmt Flow | 0 | 25 | 5 | 0 | 62 | 36 | 19 | 88 | 17 | 20 | 48 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-----|--------|-----|--------|-----|-------|--------|---|------|---|---|
| Conflicting Flow All | 272 | 231 | 48 | 238 | 223 | 97 | 48 | 0 | 0 | 105 | 0 | 0 |
| Stage 1 | 88 | 88 | - | 135 | 135 | - | - | - | - | - | - | - |
| Stage 2 | 184 | 143 | - | 103 | 88 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.33 | - | - | 4.1 | - | - |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 | 2.407 | - | - | 2.2 | - | - |
| Pot Cap-1 Maneuver | 685 | 672 | 1027 | 721 | 679 | 965 | 1435 | - | - | 1499 | - | - |
| Stage 1 | 925 | 826 | - | 873 | 789 | - | - | - | - | - | - | - |
| Stage 2 | 822 | 782 | - | 908 | 826 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 599 | 653 | 1027 | 681 | 660 | 965 | 1435 | - | - | 1499 | - | - |
| Mov Cap-2 Maneuver | 599 | 653 | - | 681 | 660 | - | - | - | - | - | - | - |
| Stage 1 | 912 | 814 | - | 861 | 778 | - | - | - | - | - | - | - |
| Stage 2 | 718 | 771 | - | 863 | 814 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 10.4 | | 10.6 | | 1.2 | | 2.2 | |
| HCM LOS | B | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1435 | - | - | - | 698 | - | 746 | 1499 | - | - |
| HCM Lane V/C Ratio | 0.013 | - | - | - | 0.044 | - | 0.132 | 0.013 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | - | 0 | 10.4 | 0 | 10.6 | 7.4 | 0 | - |
| HCM Lane LOS | A | A | - | A | B | A | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 | - | 0.5 | 0 | - | - |

HCM 6th TWSC
 3: North Site Access & 44th St NE

11/28/2023

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 195 | 5 | 1 | 163 | 3 | 1 |
| Future Vol, veh/h | 195 | 5 | 1 | 163 | 3 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 100 | - | 0 | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 89 | 89 | 82 | 82 | 92 | 92 |
| Heavy Vehicles, % | 3 | 3 | 6 | 6 | 0 | 0 |
| Mvmt Flow | 219 | 6 | 1 | 199 | 3 | 1 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|---------|
| Conflicting Flow All | 0 | 0 | 225 | 0 | 423 222 |
| Stage 1 | - | - | - | - | 222 - |
| Stage 2 | - | - | - | - | 201 - |
| Critical Hdwy | - | - | 4.16 | - | 6.4 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.4 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.4 - |
| Follow-up Hdwy | - | - | 2.254 | - | 3.5 3.3 |
| Pot Cap-1 Maneuver | - | - | 1320 | - | 591 823 |
| Stage 1 | - | - | - | - | 820 - |
| Stage 2 | - | - | - | - | 838 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1320 | - | 590 823 |
| Mov Cap-2 Maneuver | - | - | - | - | 590 - |
| Stage 1 | - | - | - | - | 820 - |
| Stage 2 | - | - | - | - | 837 - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 10.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 635 | - | - | 1320 | - |
| HCM Lane V/C Ratio | 0.007 | - | - | 0.001 | - |
| HCM Control Delay (s) | 10.7 | - | - | 7.7 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 7 | 19 | 27 | 19 | 11 | 4 |
| Future Vol, veh/h | 7 | 19 | 27 | 19 | 11 | 4 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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 | 8 | 21 | 29 | 21 | 12 | 4 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 50 | 0 | - | 0 | 77 40 |
| Stage 1 | - | - | - | - | 40 - |
| Stage 2 | - | - | - | - | 37 - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | 1557 | - | - | - | 926 1031 |
| Stage 1 | - | - | - | - | 982 - |
| Stage 2 | - | - | - | - | 985 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1557 | - | - | - | 921 1031 |
| Mov Cap-2 Maneuver | - | - | - | - | 921 - |
| Stage 1 | - | - | - | - | 977 - |
| Stage 2 | - | - | - | - | 985 - |

| Approach | EB | WB | SB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 2 | 0 | 8.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 1557 | - | - | - | 948 |
| HCM Lane V/C Ratio | 0.005 | - | - | - | 0.017 |
| HCM Control Delay (s) | 7.3 | 0 | - | - | 8.9 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

WHISKEY RIDGE WEST - EXISTING



City of Marysville

November 2017

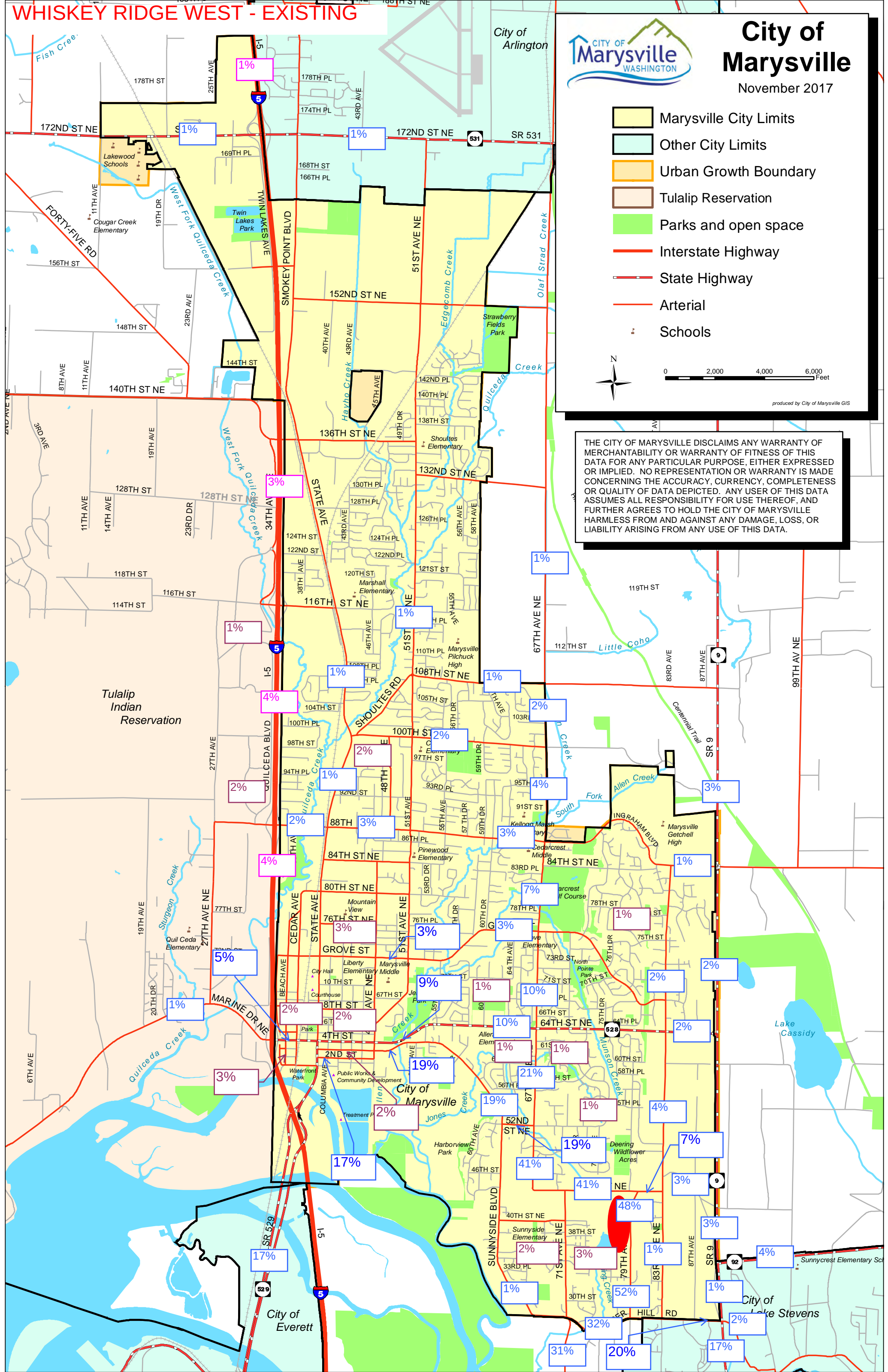
- Marysville City Limits
- Other City Limits
- Urban Growth Boundary
- Tulalip Reservation
- Parks and open space
- Interstate Highway
- State Highway
- Arterial
- Schools



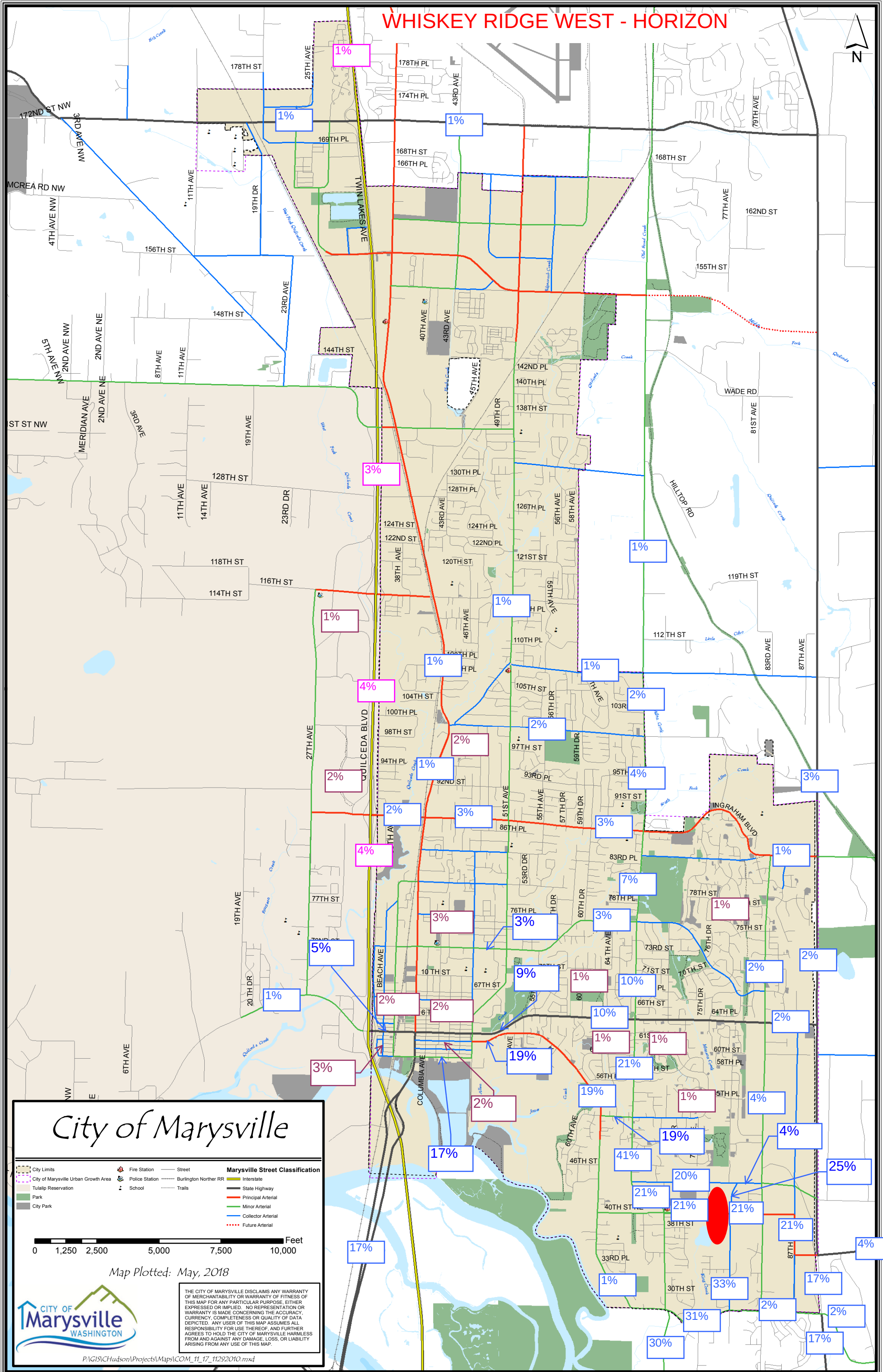
0 2,000 4,000 6,000 Feet

produced by City of Marysville GIS

THE CITY OF MARYSVILLE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS OF THIS DATA FOR ANY PARTICULAR PURPOSE, EITHER EXPRESSED OR IMPLIED. NO REPRESENTATION OR WARRANTY IS MADE CONCERNING THE ACCURACY, CURRENCY, COMPLETENESS OR QUALITY OF DATA DEPICTED. ANY USER OF THIS DATA ASSUMES ALL RESPONSIBILITY FOR USE THEREOF, AND FURTHER AGREES TO HOLD THE CITY OF MARYSVILLE HARMLESS FROM AND AGAINST ANY DAMAGE, LOSS, OR LIABILITY ARISING FROM ANY USE OF THIS DATA.

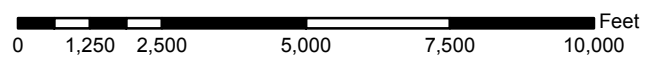


WHISKEY RIDGE WEST - HORIZON



City of Marysville

| | | | |
|--------------------------------------|----------------|------------------------|---|
| City Limits | Fire Station | Street | Marysville Street Classification |
| City of Marysville Urban Growth Area | Police Station | Burlington Northern RR | Interstate |
| Tulalo Reservation | School | Trails | State Highway |
| City Park | | | Principal Arterial |
| | | | Minor Arterial |
| | | | Collector Arterial |
| | | | Future Arterial |



Map Plotted: May, 2018



THE CITY OF MARYSVILLE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS OF THIS MAP FOR ANY PARTICULAR PURPOSE, EITHER EXPRESSED OR IMPLIED. NO REPRESENTATION OR WARRANTY IS MADE CONCERNING THE ACCURACY, CURRENCY, COMPLETENESS OR QUALITY OF DATA DEPICTED. ANY USER OF THIS MAP ASSUMES ALL RESPONSIBILITY FOR USE THEREOF, AND FURTHER AGREES TO HOLD THE CITY OF MARYSVILLE HARMLESS FROM AND AGAINST ANY DAMAGE, LOSS, OR LIABILITY ARISING FROM ANY USE OF THIS MAP.