HYDE GRAVEL PIT
TRAFFIC IMPACT ANALYSIS

King County, WA

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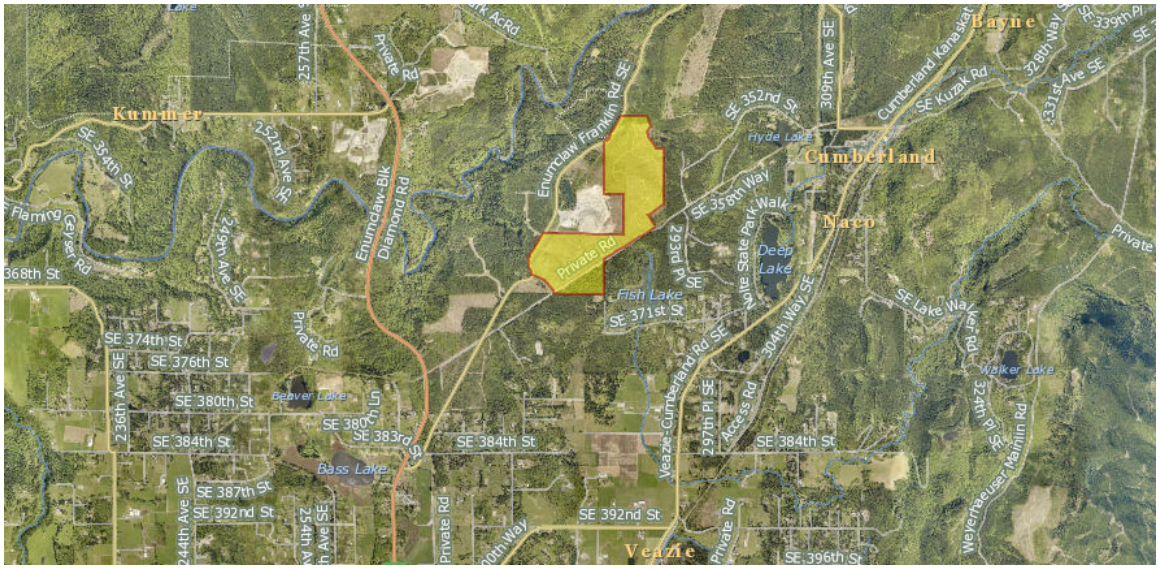
1. INTRODUCTION

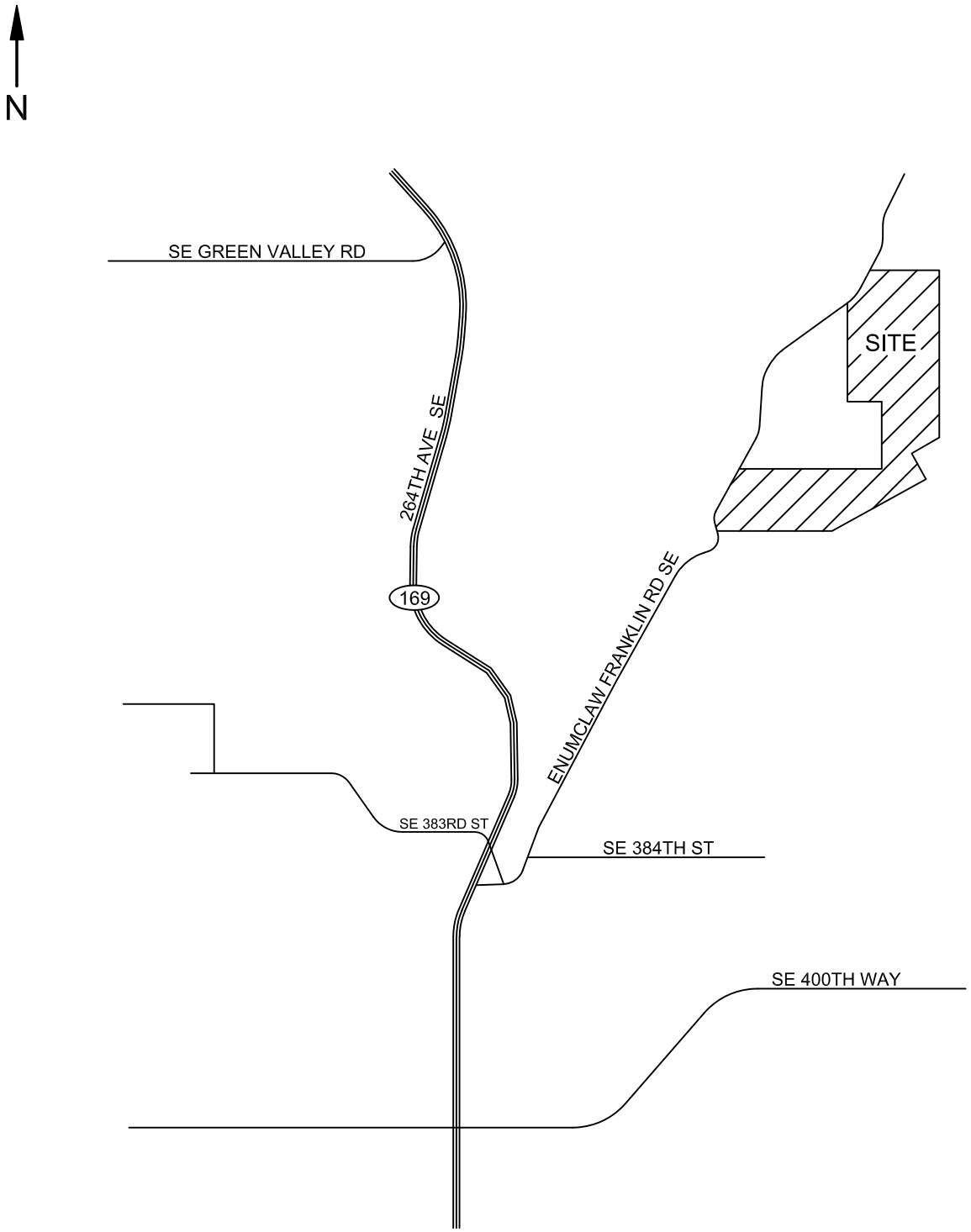
The main goals of this study focus on the analysis of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent street system, baseline vehicular volumes, and entering sight distance data. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined.

2. PROJECT DESCRIPTION

The proposed Hyde Gravel Pit property is an approximate 230-acre site that proposes a rezone from the current RA-5 to M (Mineral) to extract material and function as a gravel surface mine. Currently 22 acres are permitted for the gravel pit and the remaining 208 acres would allow for mine expansion. The site has measured reserves of 8,700,000 cubic yards. At this time the total operating life of the mine is not known. Mining levels at various times will either be 125,000 or 250,000 tons per year. This report evaluates the 250,000 tons per year scenario as traffic to and from the site would be at its peak levels. Access to and from the site is proposed via two existing access roads on Enumclaw Franklin Road SE as illustrated in the site plan. An additional secondary access through the existing Green Section 30 pit may also be used periodically. This report uses a 10-year horizon year to determine any future impacts due to project traffic. Figure 1 on the following page shows the vicinity of the area along with the street network servicing the site.

Site Aerial Map





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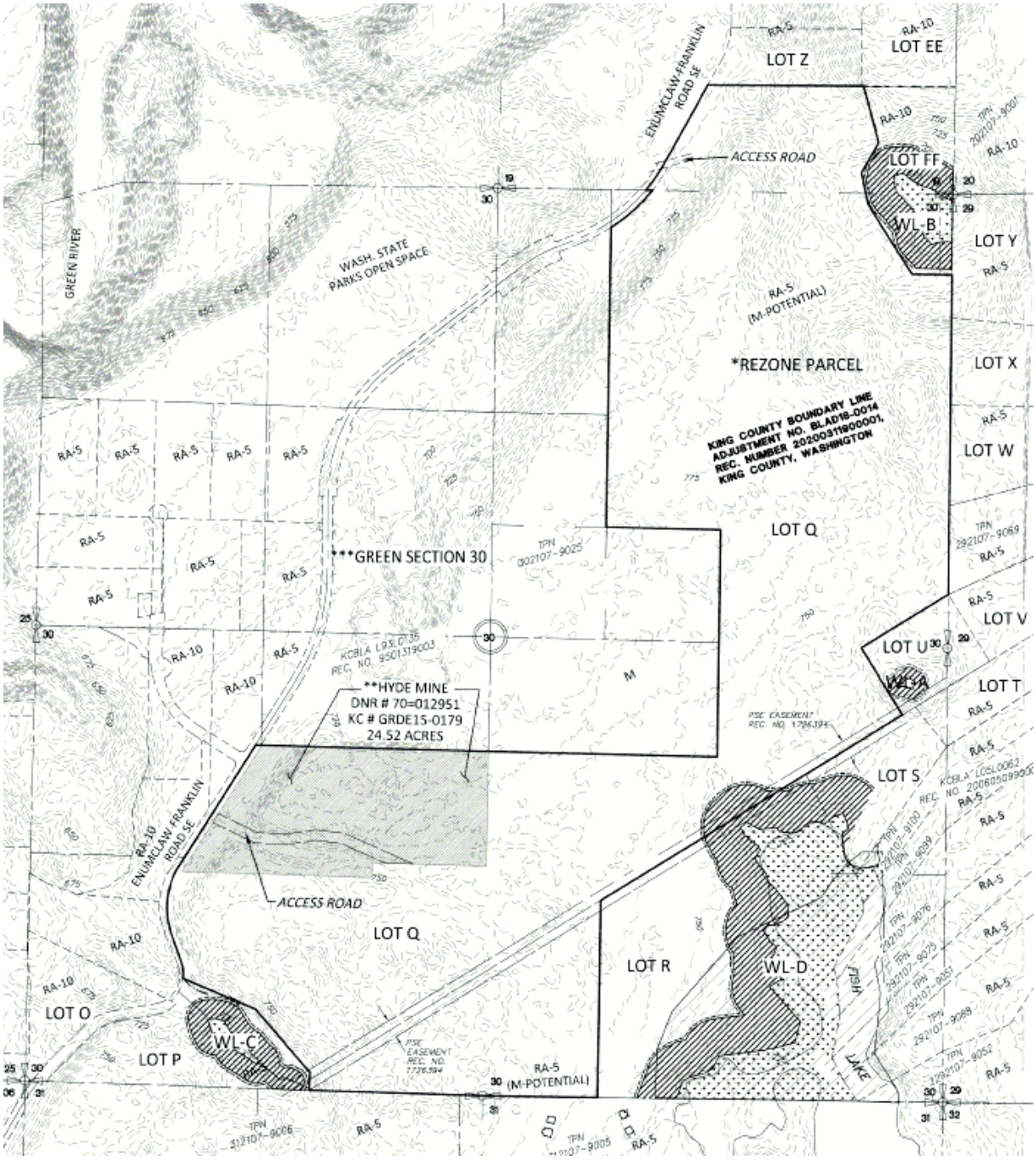
VICINITY MAP & ROADWAY SYSTEM
FIGURE 1



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HYDE GRAVEL PIT

SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Surrounding Roadway System

WA-169, also known as 264th Avenue SE, is a two-lane state route which lies to the west of the project. Travel lanes are approximately 11- to 12-feet in width and additional turn-lanes are provided at major intersections. Shoulders are paved 6 to 8 feet wide. The posted speed limit is 50-mph in the project vicinity.

Enumclaw Franklin Road SE is a north-south, two-lane designated collector arterial which borders the west side of the site. Travel lanes are approximately 10- to 11-feet in width. Narrow paved shoulders are intermittently provided. Elsewhere, grass/gravel segments are available along either edge of the roadway. The posted speed limit is 40-mph in the project vicinity.

SE 384th Street is a two-lane, east-west local roadway located south of the subject site. Total roadway width is approximately 19- to 22-feet. Grass/gravel segments are available along either edge of the roadway. The posted speed limit is 35-mph in the project vicinity.

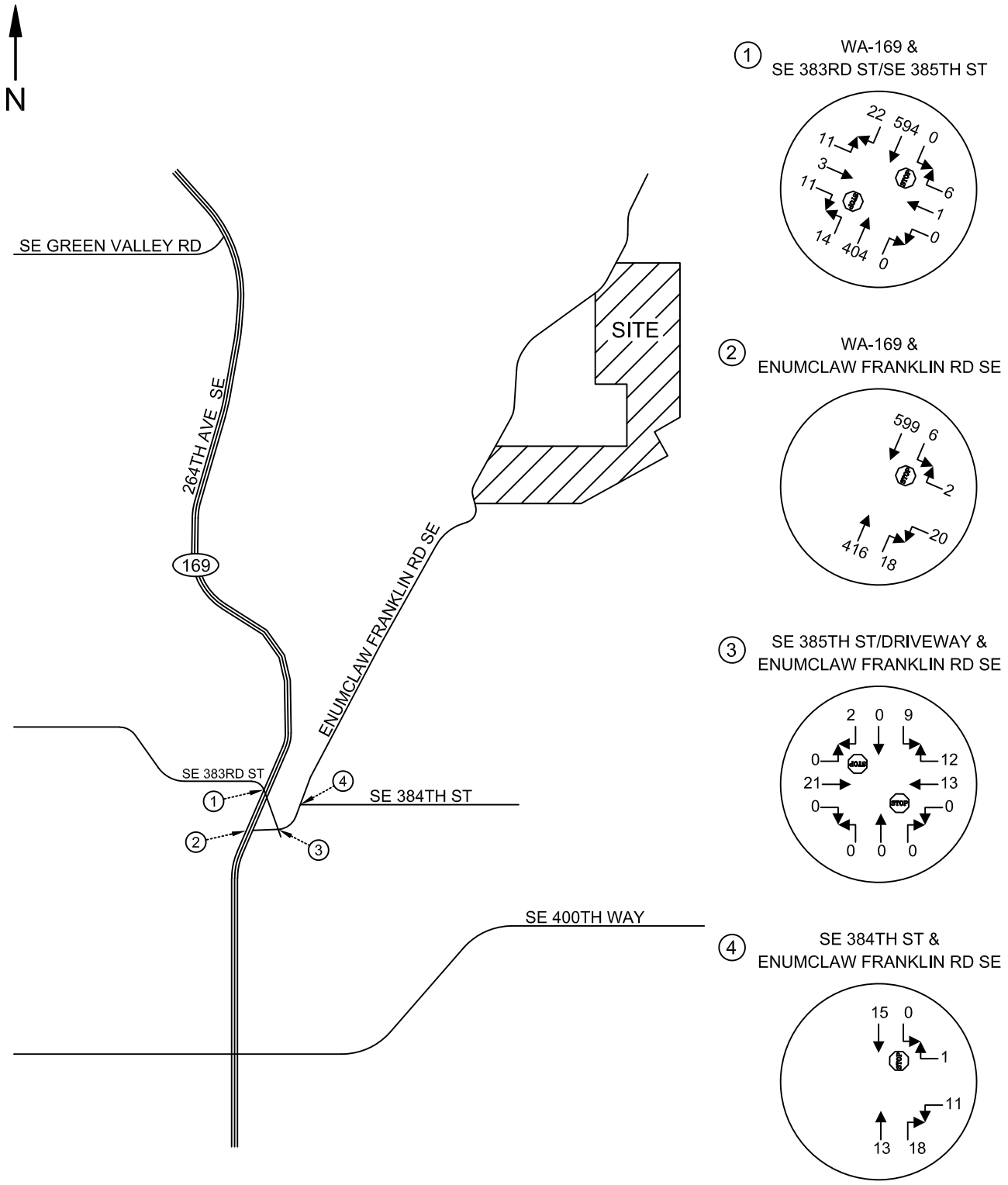
SE 383rd Street/SE 385th Street: is a two-lane local roadway that runs east-west west of SR-169 (SE 383rd Street) and jogs northwest-southeast east of WA-169 (*SE 385th Street).* Travel lanes are approximately 10- to 11-feet in width. Grass/gravel segments are available along either edge of the roadway. The posted speed limit is 35-mph in the project vicinity.

3.2 Existing Peak Hour Volumes and Patterns

Field data for this study was collected in February of 2021. Traffic counts were taken at the following intersections, consistent with the original evaluation:

- WA-169 & SE 383rd Street/SE 385th Street
- WA-169 & Enumclaw Franklin Road SE
- SE 385th Street & Enumclaw Franklin Road SE
- SE 384th Street & Enumclaw Franklin Road SE

Data was obtained during the evening peak period between the hours of 4:00 PM – 6:00 PM, which generally translates to highest overall roadway volumes in a given 24-hour period. The one hour reflecting highest overall roadway volumes (peak hour) was then derived from these counts. Existing PM peak hour volumes at the study intersections are illustrated in Figure 3 on the following page. Full-count sheets have been included in the appendix.



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EXISTING PM PEAK HOUR VOLUMES
FIGURE 3

3.3 Roadway Improvements

A review of the latest King County Capital Improvement Program shows that no roadway improvement projects are planned in the immediate vicinity of the site. Likewise, WSDOT's Statewide Transportation Improvement Program (2021-2024) indicates no improvements on SR-169 near the subject site.

3.4 Non-Motorist Activity

During field observations, no non-motorist transport was observed at the study intersections. The area surrounding the subject site is rural in nature with limited walkable amenities. Given the nature of the incoming development, no additional non-motorist transport is expected.

3.5 Public Transit

A review of the King County Metro regional bus schedule shows transit service is not provided in the vicinity of the site.

3.6 Sight Distance at Access Driveways

All proposed driveways shall be designed in accordance with *King County Road Design and Construction Standards* (KCRDCS). Based on the 40-mph posted speed limit (50 mph design speed) along Enumclaw Franklin Road SE, County standards would require 555 feet of entering sight distance (ESD). Preliminary measurements indicate sight lines in excess of 600 feet when looking north from either proposed access road location.

The northern access, when looking south, sight lines measured to approximately 550 feet with vegetation along the westerly right-of-way as the limiting factor. Subsequent trimming/removal of said vegetation would provide clear visibility to beyond 555 feet.

The southern access, when looking south, sight lines were measured to approximately 350-360 feet with vegetation along the east side of Enumclaw Franklin Road SE as the limiting factor. However, this frontage area is controlled under the subject property and can thus be cleared in order to achieve clear sight lines. A final sight distance survey may be required to verify sight distances are met.

3.7 Existing Level of Service

Existing intersection delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range[1] for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 10* analysis program. For side-street, stop-controlled intersections, LOS is determined by the approach with the highest delay. Table 1 below presents existing PM peak hour LOS delays for the key intersections of study.

Table 1: Existing PM Peak Hour Level of Service

Delays given in seconds per vehicle

Intersection	Control	Movement	LOS	Delay
WA-169 & SE 383rd St/SE 385th St	Stop	EB	C	21.4
WA-169 & Enumclaw Franklin Rd SE	Stop	WB	C	23.5
SE 385th St & Enumclaw Franklin Rd SE	Stop	SB	A	8.8
SE 384th St & Enumclaw Franklin Rd SE	Stop	WB	A	8.8

EB: Eastbound; WB: Westbound; SB: Southbound

Existing PM peak hour conditions are shown to operate with LOS C or better conditions indicating stable operations during the critical PM peak hour of travel.

[1] *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤20
C	> 20 and ≤35
D	> 35 and ≤55
E	> 55 and ≤80
F	> 80

Stop Controlled Intersections – Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	> 10 and ≤15
C	> 15 and ≤25
D	> 25 and ≤35
E	> 35 and ≤50
F	> 50

Highway Capacity Manual, 6th Edition

4. FUTURE TRAFFIC DEMAND

4.1 Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. Typically, data from the Institute of Transportation Engineer's publication *Trip Generation* is applied for trip forecasts; however, surface mines do not have an ITE land use code. Trip generation estimates for the site are therefore based on the anticipated operations of the mine. The calculations on the following page are as follows:

Maximum Yearly Output of Mine……. 250,000 tons/year
Operational Days per Year .....250 days/year
Calculated Daily Output.....250,000/250 = 1,000 tons/day
Truck and Trailer Capacity.....30 tons/truck
Calculated Trucks per Day .....1,000/30 = 34 trucks/day

Employee trips (est. 5 Employees).....10 trips/day (5 employees in & out)
Semi-Trailers .....68 trips/day (34 trucks in & out)
Miscellaneous.....20 trips/day

Total.....98 total vehicle trips per day

Adjustments for ADT and Peak Hour

Assume adjustment factor of 1.25 (25 percent) for daily variations in traffic:

Estimated total daily traffic volume = 98 vpd * 1.25 ≈ 123 vehicle trips per day

Assume PM peak hour comprises 12% of total daily volume. Based on the related land uses of Warehousing (LUC 150) and High-Cube Warehouse (LUC 152) have an ADT to PM Peak ratio of 9.0% and 7.2%, respectively.

Estimated PM peak hour volume = 123 vpd * 0.12 = 15 vehicles per hour

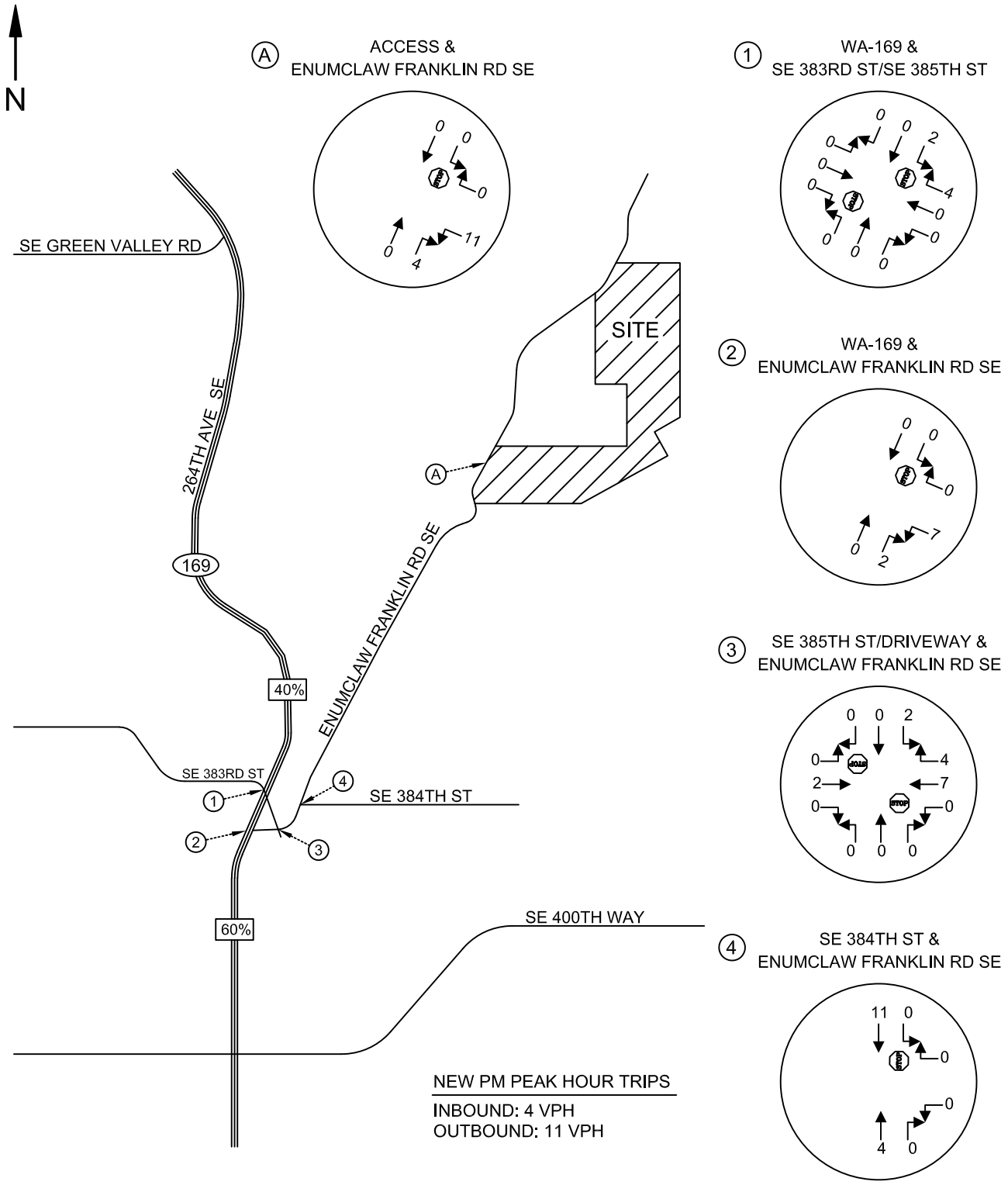
Assume inbound/outbound peak hour split of 25%/75% (based on LUC 150) yields **4 inbound trips and 11 outbound trips** during the PM peak hour.

4.2 Trip Assignment and Distribution

Trip distribution can be described as the travel routes to/from the subject site relative to the adjacent street system. The specific destinations and origins of the generated traffic primarily influence the key study intersections, which will effectively receive the bulk of project impacts. Trips generated by the project are expected to follow the general trip pattern as shown in Figure 4 for the PM peak hour. All site-generated traffic was consolidated to a single access off Enumclaw Franklin Road SE. Distribution percentages are based on existing travel patterns and the location of nearby major truck routes.

4.3 Future Traffic Volumes with and Without the Project

A ten-year horizon year was used to assess traffic impacts at the halfway point of the Hyde Gravel Pit's anticipated life. Forecast 2031 PM peak hour traffic volumes were derived by applying a 1.0 percent compound annual growth rate to the existing volumes shown in Figure 3. Forecast 2031 PM peak hour volumes without and with the addition of project-generated traffic are shown in Figures 5 and 6, respectively.



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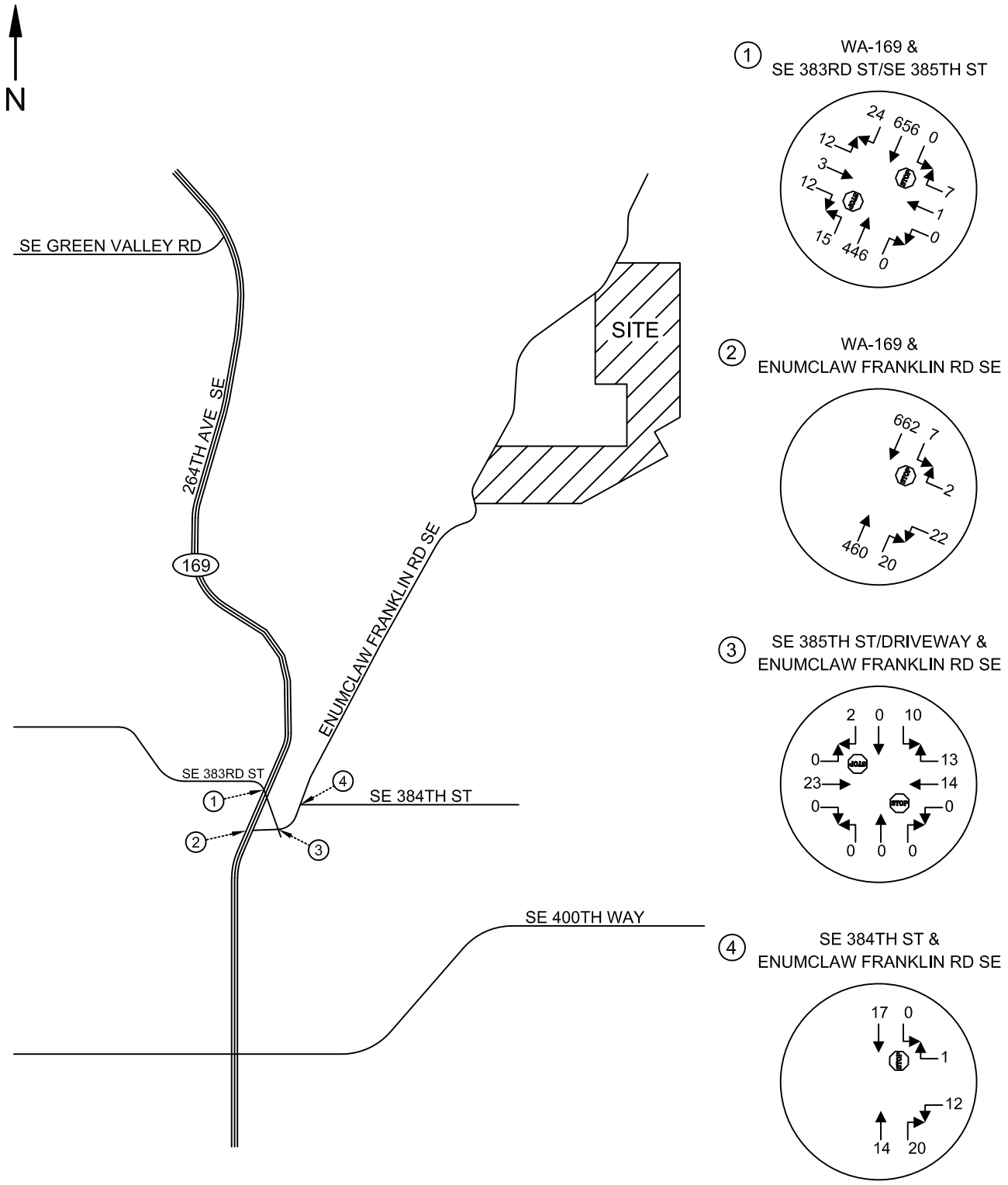
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 4



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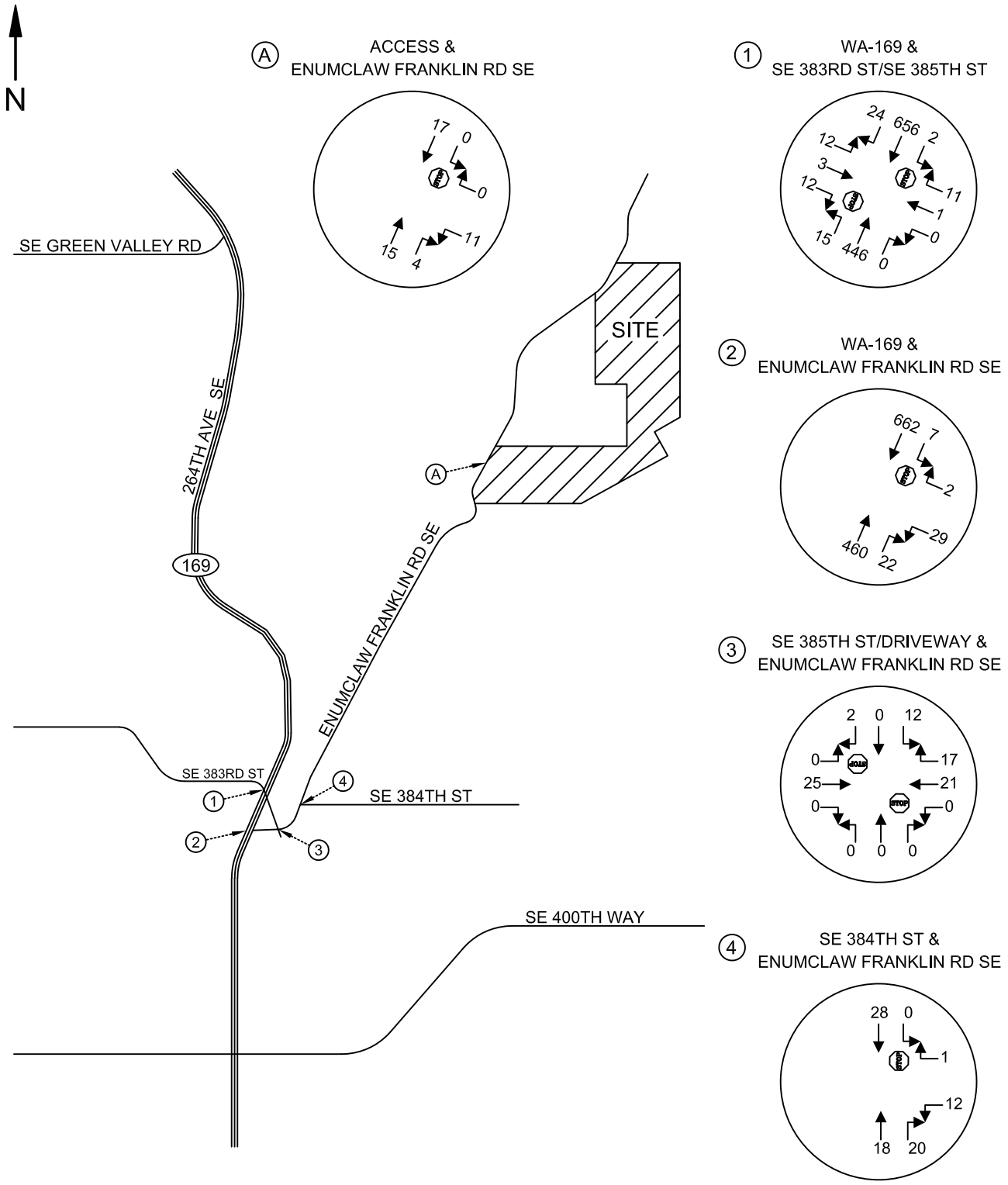
FORECAST 2031 PM PEAK HOUR BACKGROUND VOLUMES
FIGURE 5



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FORECAST 2031 PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 6

4.4 Future Level of Service

Level of service analysis was made of the future 2031 PM peak hour volumes without and with project-generated trips. This analysis once again involved the use of *Synchro 10*. Delays for the key study intersections and proposed access under future conditions are shown below in Table 2.

Table 2: Forecast 2031 PM Peak Hour Level of Service

Delays given in seconds per vehicle

			Background		*With Project*	
Intersection	**Control**	**Movement**	**LOS**	**Delay**	**LOS**	**Delay**
WA-169 & SE 383rd St/SE 385th St	Stop	EB	C	24.9	D	25.4
WA-169 & Enumclaw Franklin Rd SE	Stop	EB	D	28.0	D	34.3
SE 385th St/Dwy & Enumclaw Franklin Rd SE	Stop	SB	A	8.8	A	9.1
SE 384th St & Enumclaw Franklin Rd SE	Stop	WB	A	8.8	A	9.0
Cons. Access & Enumclaw Franklin Rd SE	Stop	WB	-	-	A	9.7

Forecast 2031 PM peak hour Level of Service at the proposed study intersections and access are shown to operate at LOS D or better. No operational deficiencies are identified as a result of the proposed development.

5. CONCLUSIONS AND MITIGATION

The proposed Hyde Gravel Pit property is a 230-acre site that plans to function as a gravel surface mine. Approximately 22-acres are currently permitted for the gravel pit and the remaining 208-acres would allow for mine expansion. Mining levels at various times will either be 125,000 or 250,000 tons per year. Two primary accesses are proposed to serve the subject site as illustrated in the conceptual site plan. Sight distances may need to be verified upon final site plan to ensure visibility meets County standards.

Trip estimates for the gravel mine were estimated based on the operational characteristics of the 250,000 ton per year scenario. Approximately 123 new daily trips into and out of the site are projected. Of this total daily traffic, 15 trips will be associated with the PM peak hour. Existing delays at the intersections of study are outlined in Table 2, which indicate mild to moderate delays in the LOS A to LOS C range. Forecast 2031 delays operate with LOS D or better delays. Overall, project traffic was not found to have a significant impact on the local roadway system.

Based on the above analysis, recommended mitigation is as follows:

1. Clear existing vegetation on Enumclaw Franklin Road SE along the project frontage and on the west side of the road within public right-of-way to meet sight line requirements at the proposed access locations. Verification of sight lines may be required upon final site design in order to meet County standards.

No other mitigation is identified at this time.

HYDE GRAVEL PIT
TRAFFIC IMPACT ANALYSIS

APPENDIX

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585a
Site Code : 00004585
Start Date : 2/17/2021
Page No : 1

Groups Printed- Cars + - Trucks

	Enumclaw Franklin Rd SE Southbound			SE 384th St Westbound			Enumclaw Franklin Rd SE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	5	1	6	0	5	5	7	1	8	19
04:15 PM	2	0	2	0	4	4	4	1	5	11
04:30 PM	4	0	4	0	0	0	2	6	8	12
04:45 PM	3	0	3	0	3	3	2	2	4	10
Total	14	1	15	0	12	12	15	10	25	52
05:00 PM	3	0	3	1	6	7	7	4	11	21
05:15 PM	5	0	5	0	2	2	7	1	8	15
05:30 PM	4	0	4	0	3	3	3	0	3	10
05:45 PM	0	0	0	0	0	0	3	2	5	5
Total	12	0	12	1	11	12	20	7	27	51
Grand Total	26	1	27	1	23	24	35	17	52	103
Apprch %	96.3	3.7		4.2	95.8		67.3	32.7		
Total %	25.2	1	26.2	1	22.3	23.3	34	16.5	50.5	
Cars +	22	1	23	1	23	24	35	17	52	99
% Cars +	84.6	100	85.2	100	100	100	100	100	100	96.1
Trucks	4	0	4	0	0	0	0	0	0	4
% Trucks	15.4	0	14.8	0	0	0	0	0	0	3.9

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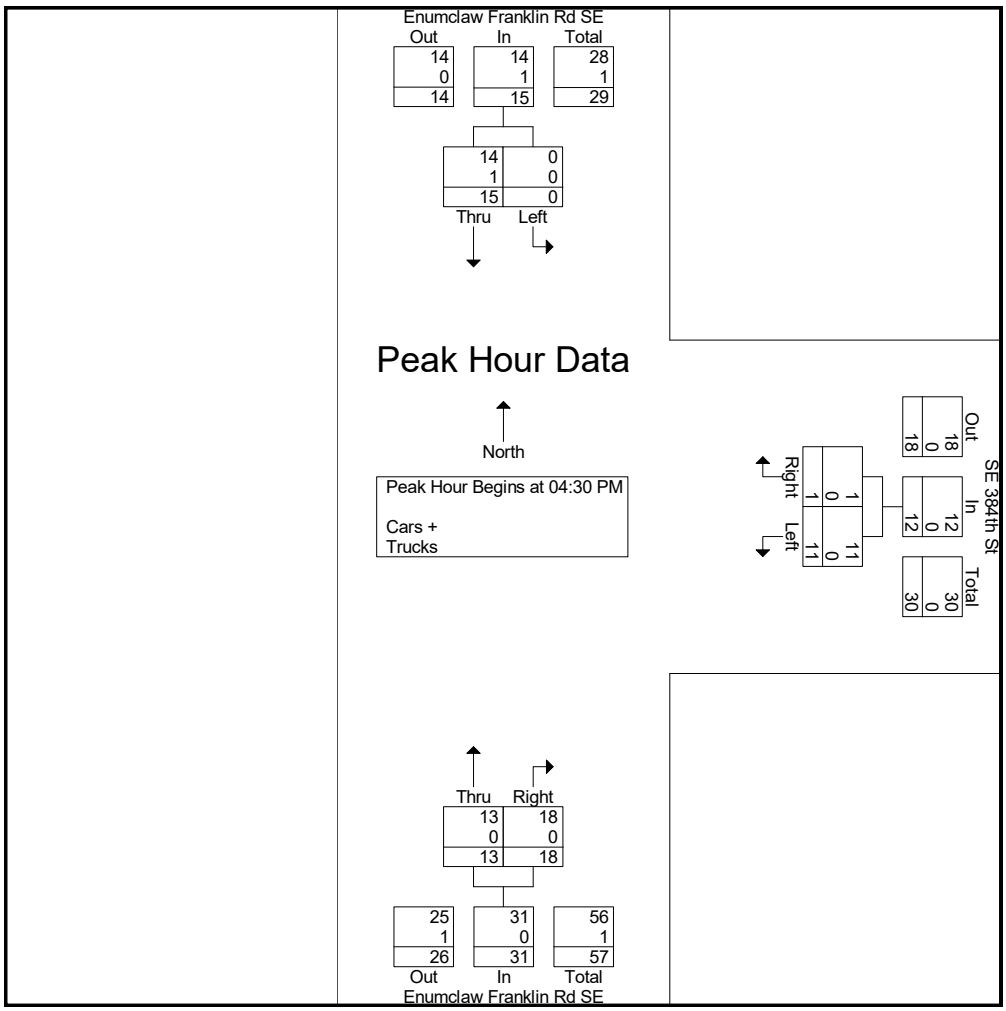
2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585a
Site Code : 00004585
Start Date : 2/17/2021
Page No : 2

	Enumclaw Franklin Rd SE Southbound			SE 384th St Westbound			Enumclaw Franklin Rd SE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	4	0	4	0	0	0	2	**6**	8	12
04:45 PM	3	0	3	0	3	3	2	2	4	10
05:00 PM	3	0	3	**1**	**6**	**7**	**7**	4	**11**	**21**
05:15 PM	**5**	0	**5**	0	2	2	7	1	8	15
Total Volume	15	0	15	1	11	12	18	13	31	58
% App. Total	100	0		8.3	91.7		58.1	41.9		
PHF	.750	.000	.750	.250	.458	.429	.643	.542	.705	.690
Cars +	14	0	14	1	11	12	18	13	31	57
% Cars +	93.3	0	93.3	100	100	100	100	100	100	98.3
Trucks	1	0	1	0	0	0	0	0	0	1
% Trucks	6.7	0	6.7	0	0	0	0	0	0	1.7



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2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585b
Site Code : 00004585
Start Date : 2/17/2021
Page No : 1

Groups Printed- Cars + - Trucks

	SE 385th St Southbound				Enumclaw Franklin Rd SE Westbound				Driveway Northbound				Enumclaw Franklin Rd SE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	0	0	0	2	7	0	9	0	0	1	1	0	6	1	7	17
04:15 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	5	1	6	12
04:30 PM	0	0	1	1	1	3	0	4	0	0	0	0	0	7	0	7	12
04:45 PM	1	0	1	2	1	5	0	6	0	0	0	0	0	3	0	3	11
Total	1	0	2	3	4	21	0	25	0	0	1	1	0	21	2	23	52
05:00 PM	1	0	1	2	5	3	0	8	0	0	0	0	0	10	0	10	20
05:15 PM	0	0	6	6	5	2	0	7	0	0	0	0	0	1	0	1	14
05:30 PM	0	0	1	1	2	5	0	7	0	0	0	0	0	2	0	2	10
05:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	3	0	3	5
Total	1	0	10	11	12	10	0	22	0	0	0	0	0	16	0	16	49
Grand Total	2	0	12	14	16	31	0	47	0	0	1	1	0	37	2	39	101
Apprch %	14.3	0	85.7		34	66	0		0	0	100		0	94.9	5.1		
Total %	2	0	11.9	13.9	15.8	30.7	0	46.5	0	0	1	1	0	36.6	2	38.6	
Cars +	2	0	12	14	16	28	0	44	0	0	1	1	0	37	2	39	98
% Cars +	100	0	100	100	100	90.3	0	93.6	0	0	100	100	0	100	100	100	97
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
% Trucks	0	0	0	0	0	9.7	0	6.4	0	0	0	0	0	0	0	0	3

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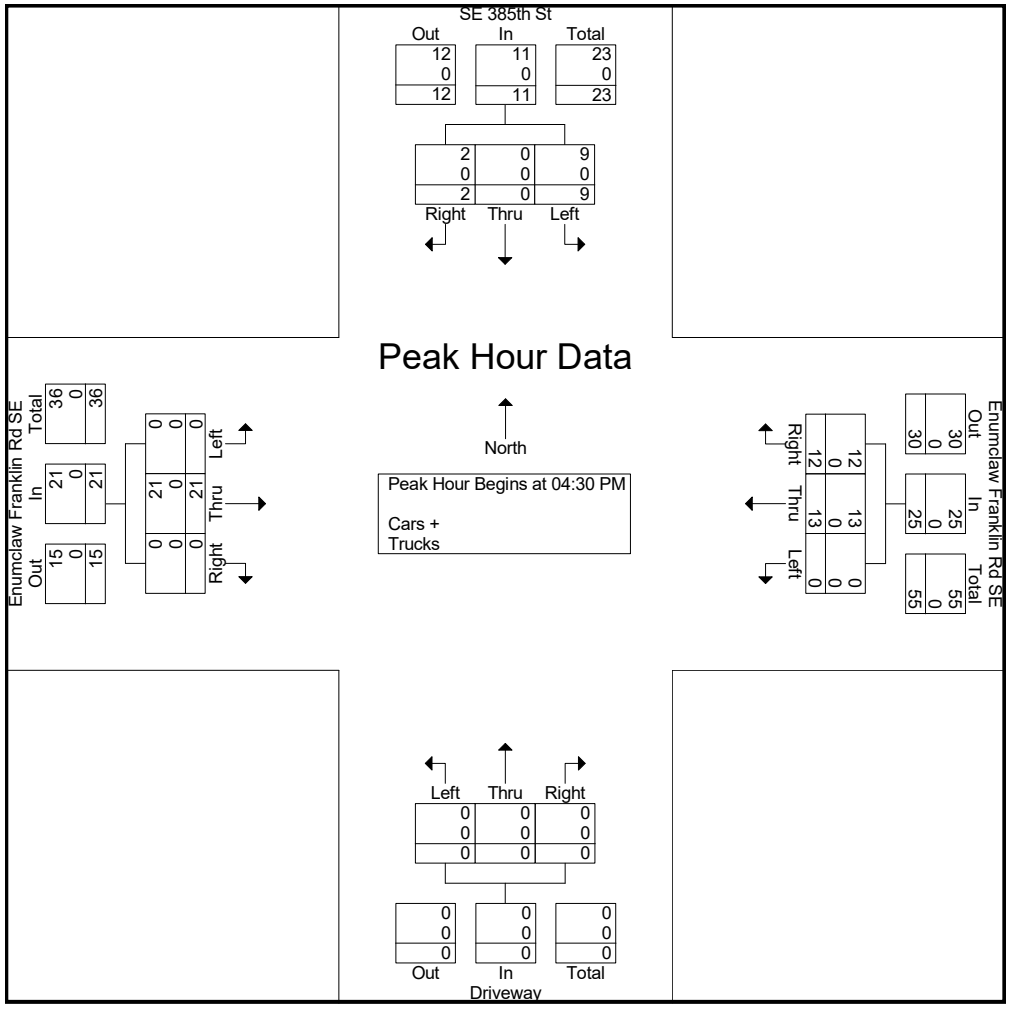
File Name : 4585b
Site Code : 00004585
Start Date : 2/17/2021
Page No : 2

	SE 385th St Southbound				Enumclaw Franklin Rd SE Westbound				Driveway Northbound				Enumclaw Franklin Rd SE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	1	1	1	3	0	4	0	0	0	0	0	7	0	7	12
04:45 PM	**1**	0	1	2	1	**5**	0	6	0	0	0	0	0	3	0	3	11
05:00 PM	1	0	1	2	**5**	3	0	**8**	0	0	0	0	0	**10**	0	**10**	**20**
05:15 PM	0	0	**6**	**6**	5	2	0	7	0	0	0	0	0	1	0	1	14
Total Volume	2	0	9	11	12	13	0	25	0	0	0	0	0	21	0	21	57
% App. Total	18.2	0	81.8		48	52	0		0	0	0		0	100	0		
PHF	.500	.000	.375	.458	.600	.650	.000	.781	.000	.000	.000	.000	.000	.525	.000	.525	.713
Cars +	2	0	9	11	12	13	0	25	0	0	0	0	0	21	0	21	57
% Cars +	100	0	100	100	100	100	0	100	0	0	0	0	0	100	0	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585c
Site Code : 00004585
Start Date : 2/17/2021
Page No : 1

Groups Printed- Cars + - Trucks

	WA-169 Southbound				SE 383rd St Westbound				WA-169 Northbound				SE 385th St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	6	154	0	160	4	0	0	4	0	107	3	110	2	0	6	8	282
04:15 PM	2	149	0	151	0	1	0	1	0	84	2	86	1	0	1	2	240
04:30 PM	8	142	0	150	1	0	0	1	0	129	5	134	3	1	2	6	291
04:45 PM	6	149	0	155	1	0	0	1	0	84	4	88	5	2	2	9	253
Total	22	594	0	616	6	1	0	7	0	404	14	418	11	3	11	25	1066
05:00 PM	5	138	0	143	3	0	0	3	1	125	3	129	1	0	2	3	278
05:15 PM	10	115	5	130	1	4	0	5	0	101	2	103	1	2	3	6	244
05:30 PM	7	124	0	131	1	1	0	2	0	80	3	83	1	0	1	2	218
05:45 PM	7	135	1	143	0	0	0	0	0	64	0	64	2	1	4	7	214
Total	29	512	6	547	5	5	0	10	1	370	8	379	5	3	10	18	954
Grand Total	51	1106	6	1163	11	6	0	17	1	774	22	797	16	6	21	43	2020
Apprch %	4.4	95.1	0.5		64.7	35.3	0		0.1	97.1	2.8		37.2	14	48.8		
Total %	2.5	54.8	0.3	57.6	0.5	0.3	0	0.8	0	38.3	1.1	39.5	0.8	0.3	1	2.1	
Cars +	50	1090	6	1146	11	6	0	17	1	766	21	788	16	6	21	43	1994
% Cars +	98	98.6	100	98.5	100	100	0	100	100	99	95.5	98.9	100	100	100	100	98.7
Trucks	1	16	0	17	0	0	0	0	0	8	1	9	0	0	0	0	26
% Trucks	2	1.4	0	1.5	0	0	0	0	0	1	4.5	1.1	0	0	0	0	1.3

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2214 Tacoma Rd E
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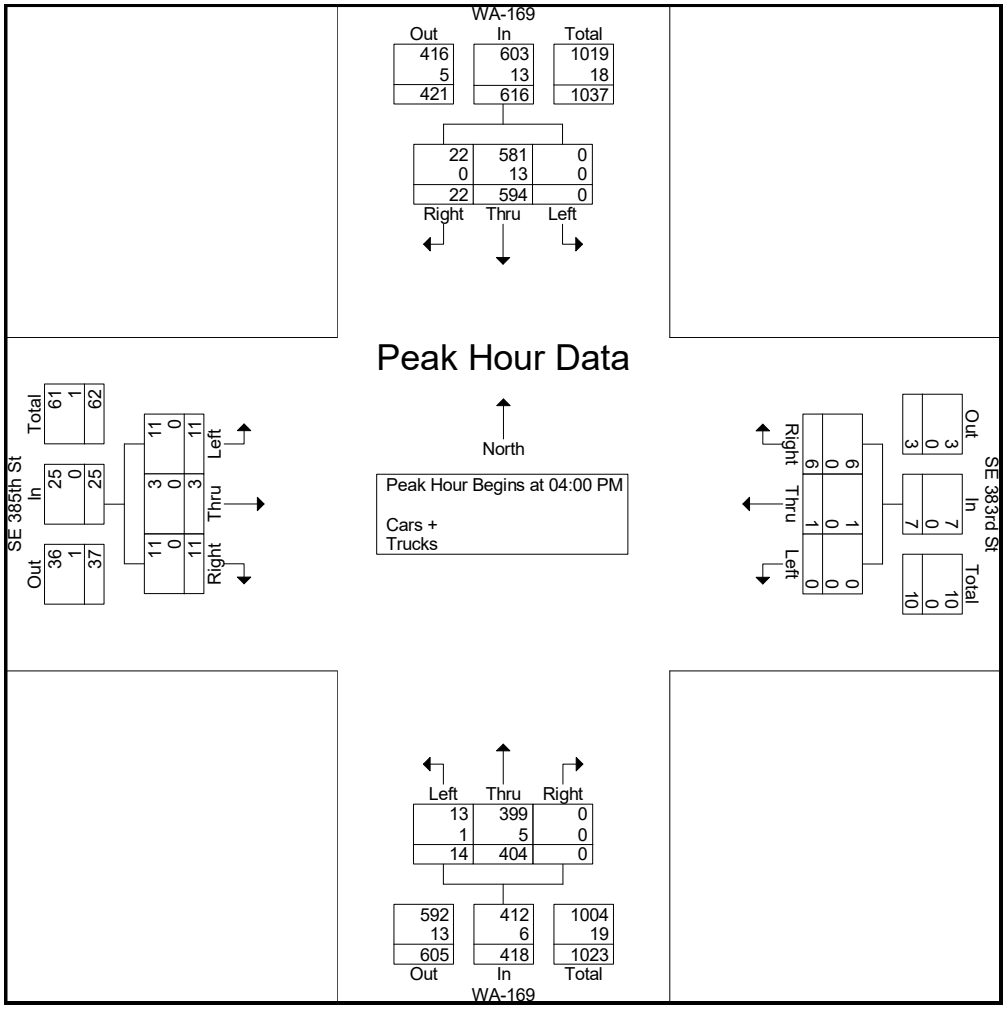
File Name : 4585c
Site Code : 00004585
Start Date : 2/17/2021
Page No : 2

	WA-169 Southbound				SE 383rd St Westbound				WA-169 Northbound				SE 385th St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	6	**154**	0	**160**	**4**	0	0	**4**	0	107	3	110	2	0	**6**	8	282
04:15 PM	2	149	0	151	0	**1**	0	1	0	84	2	86	1	0	1	2	240
04:30 PM	**8**	142	0	150	1	0	0	1	0	**129**	**5**	**134**	3	1	2	6	**291**
04:45 PM	6	149	0	155	1	0	0	1	0	84	4	88	**5**	**2**	2	**9**	253
Total Volume	22	594	0	616	6	1	0	7	0	404	14	418	11	3	11	25	1066
% App. Total	3.6	96.4	0		85.7	14.3	0		0	96.7	3.3		44	12	44		
PHF	.688	.964	.000	.963	.375	.250	.000	.438	.000	.783	.700	.780	.550	.375	.458	.694	.916
Cars +	22	581	0	603	6	1	0	7	0	399	13	412	11	3	11	25	1047
% Cars +	100	97.8	0	97.9	100	100	0	100	0	98.8	92.9	98.6	100	100	100	100	98.2
Trucks	0	13	0	13	0	0	0	0	0	5	1	6	0	0	0	0	19
% Trucks	0	2.2	0	2.1	0	0	0	0	0	1.2	7.1	1.4	0	0	0	0	1.8



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585d
Site Code : 00004585
Start Date : 2/17/2021
Page No : 1

Groups Printed- Cars + - Trucks

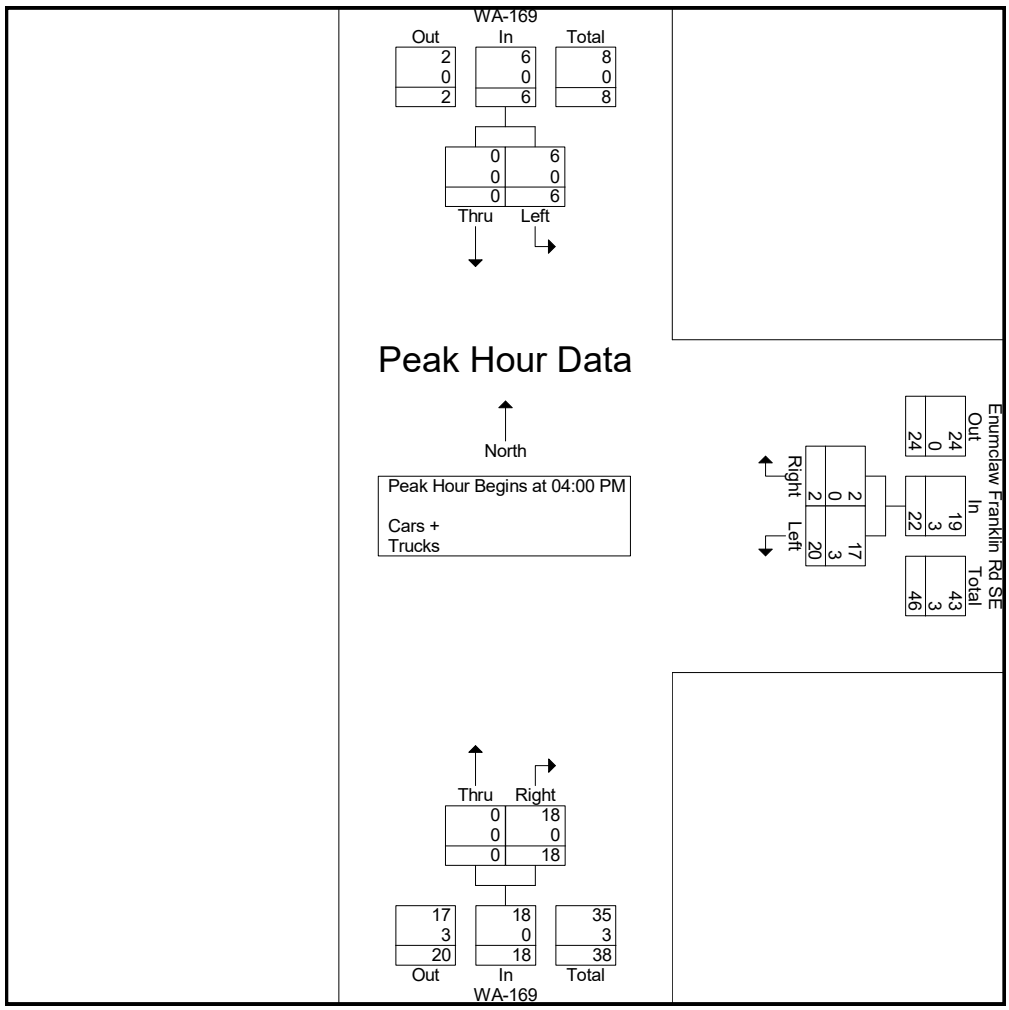
	WA-169 Southbound			Enumclaw Franklin Rd SE Westbound			WA-169 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	0	2	2	0	7	7	6	0	6	15
04:15 PM	0	2	2	0	6	6	4	0	4	12
04:30 PM	0	2	2	1	2	3	6	0	6	11
04:45 PM	0	0	0	1	5	6	2	0	2	8
Total	0	6	6	2	20	22	18	0	18	46
05:00 PM	0	4	4	1	4	5	5	0	5	14
05:15 PM	0	2	2	0	2	2	1	0	1	5
05:30 PM	0	1	1	0	5	5	1	0	1	7
05:45 PM	0	2	2	0	0	0	1	0	1	3
Total	0	9	9	1	11	12	8	0	8	29
Grand Total	0	15	15	3	31	34	26	0	26	75
Apprch %	0	100		8.8	91.2		100	0		
Total %	0	20	20	4	41.3	45.3	34.7	0	34.7	
Cars +	0	15	15	3	28	31	26	0	26	72
% Cars +	0	100	100	100	90.3	91.2	100	0	100	96
Trucks	0	0	0	0	3	3	0	0	0	3
% Trucks	0	0	0	0	9.7	8.8	0	0	0	4

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4585d
Site Code : 00004585
Start Date : 2/17/2021
Page No : 2

	WA-169 Southbound			Enumclaw Franklin Rd SE Westbound			WA-169 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	**2**	**2**	0	**7**	**7**	**6**	0	**6**	**15**
04:15 PM	0	2	2	0	6	6	4	0	4	12
04:30 PM	0	2	2	**1**	2	3	6	0	6	11
04:45 PM	0	0	0	1	5	6	2	0	2	8
Total Volume	0	6	6	2	20	22	18	0	18	46
% App. Total	0	100		9.1	90.9		100	0		
PHF	.000	.750	.750	.500	.714	.786	.750	.000	.750	.767
Cars +	0	6	6	2	17	19	18	0	18	43
% Cars +	0	100	100	100	85.0	86.4	100	0	100	93.5
Trucks	0	0	0	0	3	3	0	0	0	3
% Trucks	0	0	0	0	15.0	13.6	0	0	0	6.5



Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	3	11	0	1	6	14	404	0	0	594	22
Future Vol, veh/h	11	3	11	0	1	6	14	404	0	0	594	22
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	7	1	1	1	2	1
Mvmt Flow	12	3	12	0	1	7	15	439	0	0	646	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1131	1127	658	1135	1139	439	670	0	0	439	0	0
Stage 1	658	658	-	469	469	-	-	-	-	-	-	-
Stage 2	473	469	-	666	670	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.17	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.263	-	-	2.209	-	-
Pot Cap-1 Maneuver	181	205	466	180	202	620	897	-	-	1126	-	-
Stage 1	455	463	-	577	562	-	-	-	-	-	-	-
Stage 2	574	562	-	450	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	175	200	466	170	198	620	897	-	-	1126	-	-
Mov Cap-2 Maneuver	175	200	-	170	198	-	-	-	-	-	-	-
Stage 1	445	463	-	564	550	-	-	-	-	-	-	-
Stage 2	554	550	-	435	457	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.4	12.7	0.3	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	897	-	-	246	475	1126	-	-
HCM Lane V/C Ratio	0.017	-	-	0.11	0.016	-	-	-
HCM Control Delay (s)	9.1	0	-	21.4	12.7	0	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	0	-	-

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Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	2	416	18	6	599
Future Vol, veh/h	20	2	416	18	6	599
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	78	78	92	78	78	92
Heavy Vehicles, %	15	1	1	1	1	2
Mvmt Flow	26	3	452	23	8	651

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1131	464	0	0	475	0
Stage 1	464	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Critical Hdwy	6.55	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	212	600	-	-	1092	-
Stage 1	607	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	210	600	-	-	1092	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	223	1092	-
HCM Lane V/C Ratio	-	-	0.126	0.007	-
HCM Control Delay (s)	-	-	23.5	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

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Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	21	0	0	13	12	0	0	0	9	0	2
Future Vol, veh/h	0	21	0	0	13	12	0	0	0	9	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	30	0	0	18	17	0	0	0	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	35	0	0	30	0	0	58	65	30	57	57	27
Stage 1	-	-	-	-	-	-	30	30	-	27	27	-
Stage 2	-	-	-	-	-	-	28	35	-	30	30	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1583	-	-	1589	-	-	941	828	1047	942	836	1051
Stage 1	-	-	-	-	-	-	989	872	-	993	875	-
Stage 2	-	-	-	-	-	-	992	868	-	989	872	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1583	-	-	1589	-	-	938	828	1047	942	836	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	938	828	-	942	836	-
Stage 1	-	-	-	-	-	-	989	872	-	993	875	-
Stage 2	-	-	-	-	-	-	989	868	-	989	872	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1583	-	-	1589	-	-	960
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.016
HCM Control Delay (s)	0	0	-	-	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

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Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	1	13	18	0	15
Future Vol, veh/h	11	1	13	18	0	15
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	69	69	69	69	69	69
Heavy Vehicles, %	1	1	1	1	1	7
Mvmt Flow	16	1	19	26	0	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	54	32	0	0	45	0
Stage 1	32	-	-	-	-	-
Stage 2	22	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	957	1045	-	-	1570	-
Stage 1	993	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	957	1045	-	-	1570	-
Mov Cap-2 Maneuver	957	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	964	1570	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

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Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	3	12	0	1	7	15	446	0	0	656	24
Future Vol, veh/h	12	3	12	0	1	7	15	446	0	0	656	24
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	7	1	1	1	2	1
Mvmt Flow	13	3	13	0	1	8	16	485	0	0	713	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1248	1243	726	1251	1256	485	739	0	0	485	0	0
Stage 1	726	726	-	517	517	-	-	-	-	-	-	-
Stage 2	522	517	-	734	739	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.17	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.263	-	-	2.209	-	-
Pot Cap-1 Maneuver	151	175	426	150	172	584	845	-	-	1083	-	-
Stage 1	417	431	-	543	535	-	-	-	-	-	-	-
Stage 2	540	535	-	413	425	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	145	170	426	140	168	584	845	-	-	1083	-	-
Mov Cap-2 Maneuver	145	170	-	140	168	-	-	-	-	-	-	-
Stage 1	406	431	-	529	521	-	-	-	-	-	-	-
Stage 2	518	521	-	397	425	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	13.2	0.3	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	845	-	-	210	446	1083	-	-
HCM Lane V/C Ratio	0.019	-	-	0.14	0.019	-	-	-
HCM Control Delay (s)	9.3	0	-	24.9	13.2	0	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

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Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	2	460	20	7	662
Future Vol, veh/h	22	2	460	20	7	662
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	78	78	92	78	78	92
Heavy Vehicles, %	15	1	1	1	1	2
Mvmt Flow	28	3	500	26	9	720

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1251	513	0	0	526	0
Stage 1	513	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Critical Hdwy	6.55	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	179	563	-	-	1046	-
Stage 1	575	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	176	563	-	-	1046	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	187	1046	-
HCM Lane V/C Ratio	-	-	0.165	0.009	-
HCM Control Delay (s)	-	-	28	8.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

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Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	23	0	0	14	13	0	0	0	10	0	2
Future Vol, veh/h	0	23	0	0	14	13	0	0	0	10	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	32	0	0	20	18	0	0	0	14	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	38	0	0	32	0	0	63	70	32	61	61	29
Stage 1	-	-	-	-	-	-	32	32	-	29	29	-
Stage 2	-	-	-	-	-	-	31	38	-	32	32	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1579	-	-	1587	-	-	934	822	1045	937	832	1049
Stage 1	-	-	-	-	-	-	987	870	-	991	873	-
Stage 2	-	-	-	-	-	-	988	865	-	987	870	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1579	-	-	1587	-	-	931	822	1045	937	832	1049
Mov Cap-2 Maneuver	-	-	-	-	-	-	931	822	-	937	832	-
Stage 1	-	-	-	-	-	-	987	870	-	991	873	-
Stage 2	-	-	-	-	-	-	985	865	-	987	870	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1579	-	-	1587	-	-	954
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.018
HCM Control Delay (s)	0	0	-	-	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

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Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	1	14	20	0	17
Future Vol, veh/h	12	1	14	20	0	17
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	69	69	69	69	69	69
Heavy Vehicles, %	1	1	1	1	1	7
Mvmt Flow	17	1	20	29	0	25

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	60	35	0	0	49	0
Stage 1	35	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	949	1041	-	-	1564	-
Stage 1	990	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	949	1041	-	-	1564	-
Mov Cap-2 Maneuver	949	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	1000	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	955	1564	-
HCM Lane V/C Ratio	-	-	0.02	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

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Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	3	12	0	1	11	15	446	0	2	656	24
Future Vol, veh/h	12	3	12	0	1	11	15	446	0	2	656	24
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	36	7	1	1	100	2	1
Mvmt Flow	13	3	13	0	1	12	16	485	0	2	713	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1254	1247	726	1255	1260	485	739	0	0	485	0	0
Stage 1	730	730	-	517	517	-	-	-	-	-	-	-
Stage 2	524	517	-	738	743	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.56	4.17	-	-	5.1	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.624	2.263	-	-	3.1	-	-
Pot Cap-1 Maneuver	149	174	426	149	171	519	845	-	-	715	-	-
Stage 1	415	429	-	543	535	-	-	-	-	-	-	-
Stage 2	538	535	-	411	423	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	141	169	426	139	166	519	845	-	-	715	-	-
Mov Cap-2 Maneuver	141	169	-	139	166	-	-	-	-	-	-	-
Stage 1	404	427	-	529	521	-	-	-	-	-	-	-
Stage 2	511	521	-	393	421	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.4	13.4	0.3	0
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	845	-	-	206	441	715	-	-
HCM Lane V/C Ratio	0.019	-	-	0.142	0.03	0.003	-	-
HCM Control Delay (s)	9.3	0	-	25.4	13.4	10.1	0	-
HCM Lane LOS	A	A	-	D	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

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Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	2	460	22	7	662
Future Vol, veh/h	29	2	460	22	7	662
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	78	78	92	78	78	92
Heavy Vehicles, %	45	1	1	9	1	2
Mvmt Flow	37	3	500	28	9	720

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1252	514	0	0	528	0
Stage 1	514	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Critical Hdwy	6.85	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.85	-	-	-	-	-
Critical Hdwy Stg 2	5.85	-	-	-	-	-
Follow-up Hdwy	3.905	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	156	562	-	-	1044	-
Stage 1	522	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	154	562	-	-	1044	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.3	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	162	1044	-
HCM Lane V/C Ratio	-	-	0.245	0.009	-
HCM Control Delay (s)	-	-	34.3	8.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

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Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	25	0	0	21	17	0	0	0	12	0	2
Future Vol, veh/h	0	25	0	0	21	17	0	0	0	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	1	8	1	1	1	24	1	1	1	17	1	1
Mvmt Flow	0	35	0	0	30	24	0	0	0	17	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	35	0	0	79	89	35	77	77	42
Stage 1	-	-	-	-	-	-	35	35	-	42	42	-
Stage 2	-	-	-	-	-	-	44	54	-	35	35	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.27	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.27	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.27	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.653	4.009	3.309
Pot Cap-1 Maneuver	1558	-	-	1583	-	-	912	803	1041	877	815	1032
Stage 1	-	-	-	-	-	-	983	868	-	936	862	-
Stage 2	-	-	-	-	-	-	973	852	-	944	868	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1558	-	-	1583	-	-	909	803	1041	877	815	1032
Mov Cap-2 Maneuver	-	-	-	-	-	-	909	803	-	877	815	-
Stage 1	-	-	-	-	-	-	983	868	-	936	862	-
Stage 2	-	-	-	-	-	-	970	852	-	944	868	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1558	-	-	1583	-	-	896
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.022
HCM Control Delay (s)	0	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

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Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	1	18	20	0	28
Future Vol, veh/h	12	1	18	20	0	28
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	69	69	69	69	69	69
Heavy Vehicles, %	1	1	22	1	1	43
Mvmt Flow	17	1	26	29	0	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	82	41	0	0	55	0
Stage 1	41	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	922	1033	-	-	1556	-
Stage 1	984	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	922	1033	-	-	1556	-
Mov Cap-2 Maneuver	922	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	984	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	930	1556	-
HCM Lane V/C Ratio	-	-	0.02	-	-
HCM Control Delay (s)	-	-	9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

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Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	0	15	4	0	17
Future Vol, veh/h	11	0	15	4	0	17
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, %	100	100	2	100	100	2
Mvmt Flow	12	0	16	4	0	18

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	36	18	0	0	20	0
Stage 1	18	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	7.4	7.2	-	-	5.1	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.2	-	-	3.1	-
Pot Cap-1 Maneuver	777	836	-	-	1139	-
Stage 1	801	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	777	836	-	-	1139	-
Mov Cap-2 Maneuver	777	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	777	1139	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	9.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

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