Engineers Planners Surveyors Landscape Architects Environmental Scientists

MASER CONSULTING P. A.

Traffic Impact Study

Hoffman Property Residential Development

Old Farm Road
Town of Red Hook, Dutchess County, New York

June 24, 2014

Prepared For

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1. PROJECT DESCRIPTION AND LOCATION (Figure No. 1)

A 102 dwelling unit residential development consisting of 62 single family homes, 20 cottages and 20 townhouses is proposed to be constructed on the Hoffman property located on the west side of Old Farm Road south of Cambridge Drive, in the Town of Red Hook, New York (See Figure No. 1.) A copy of the overall site plan, Drawing SP-1 is included as Exhibit 1. Access to the development will be provided from Old Farm Road via three new access roads, which will interconnect on site. The development is expected to be completed in the next several years and a Design Year of 2017 has been used for analysis purposes in this report.

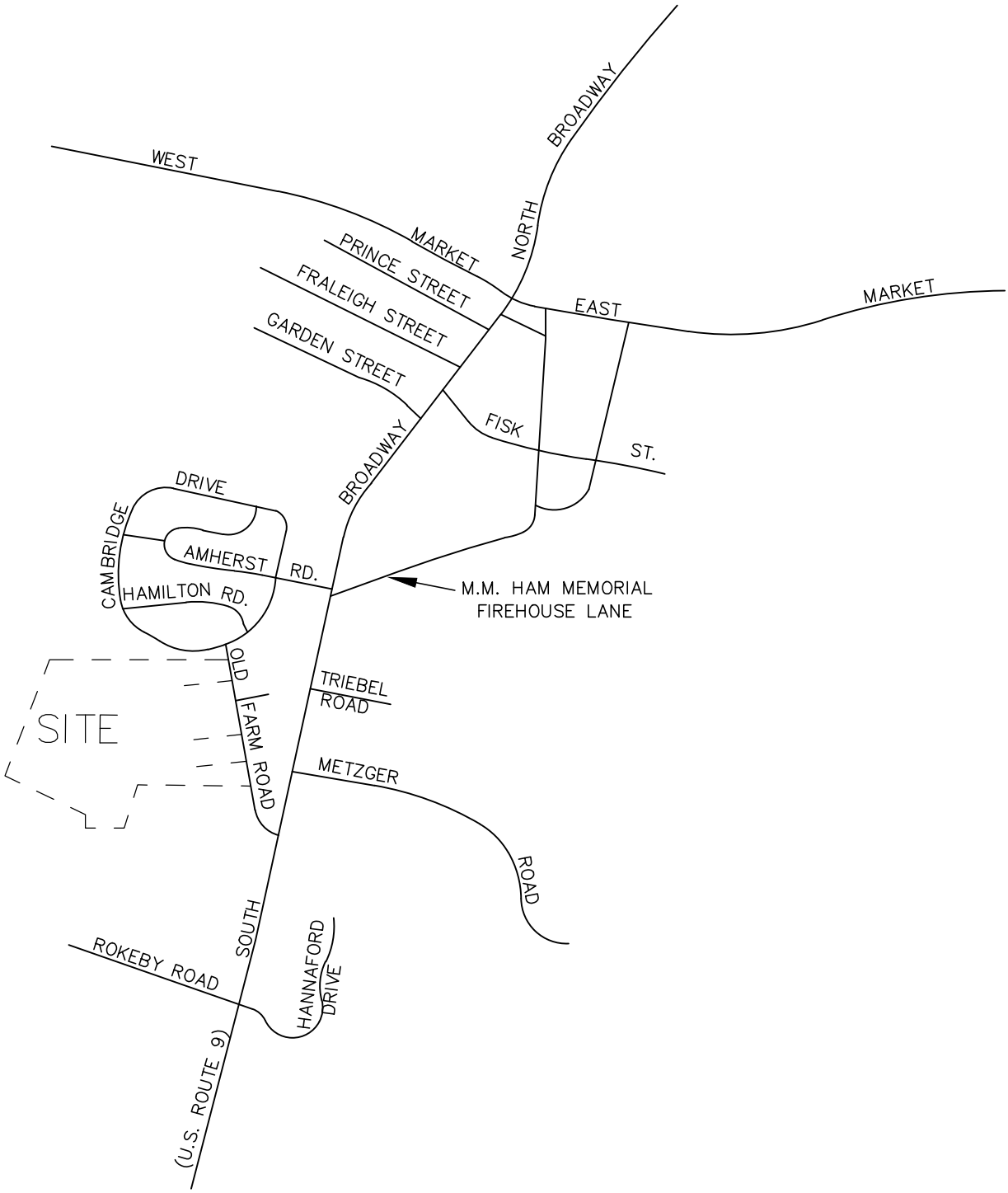
2. SCOPE OF STUDY

This study was prepared to evaluate the potential traffic impacts associated with the proposed residential development on the surrounding roadway network. Traffic counts collected by representatives of Maser Consulting P.A. (formerly John Collins Engineers, P.C.) were utilized to establish the Existing Traffic Volumes for the study area intersections to evaluate the potential impacts of the Project.

The Existing Traffic Volumes were then projected to a 2017 Design Year to take into account expected increases in traffic due to normal background traffic growth and to account for other miscellaneous development traffic in the area. Also, estimates of traffic from other specific potential developments were also computed and added to the projected volumes to obtain the No-Build Traffic Volumes (i.e., without the Hoffman Development).

Estimates of the traffic to be generated by the residential development were then made based on information published by the Institute of Transportation Engineers. These volumes were added to the No-Build Traffic Volumes to obtain the Design Year Build Traffic Volumes (with the Hoffman Development).

Based on the procedures contained in the *2010 Highway Capacity Manual*, the traffic volumes were then compared to roadway capacities to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were then made where necessary.



NOTE: LINE DIAGRAM NOT TO SCALE

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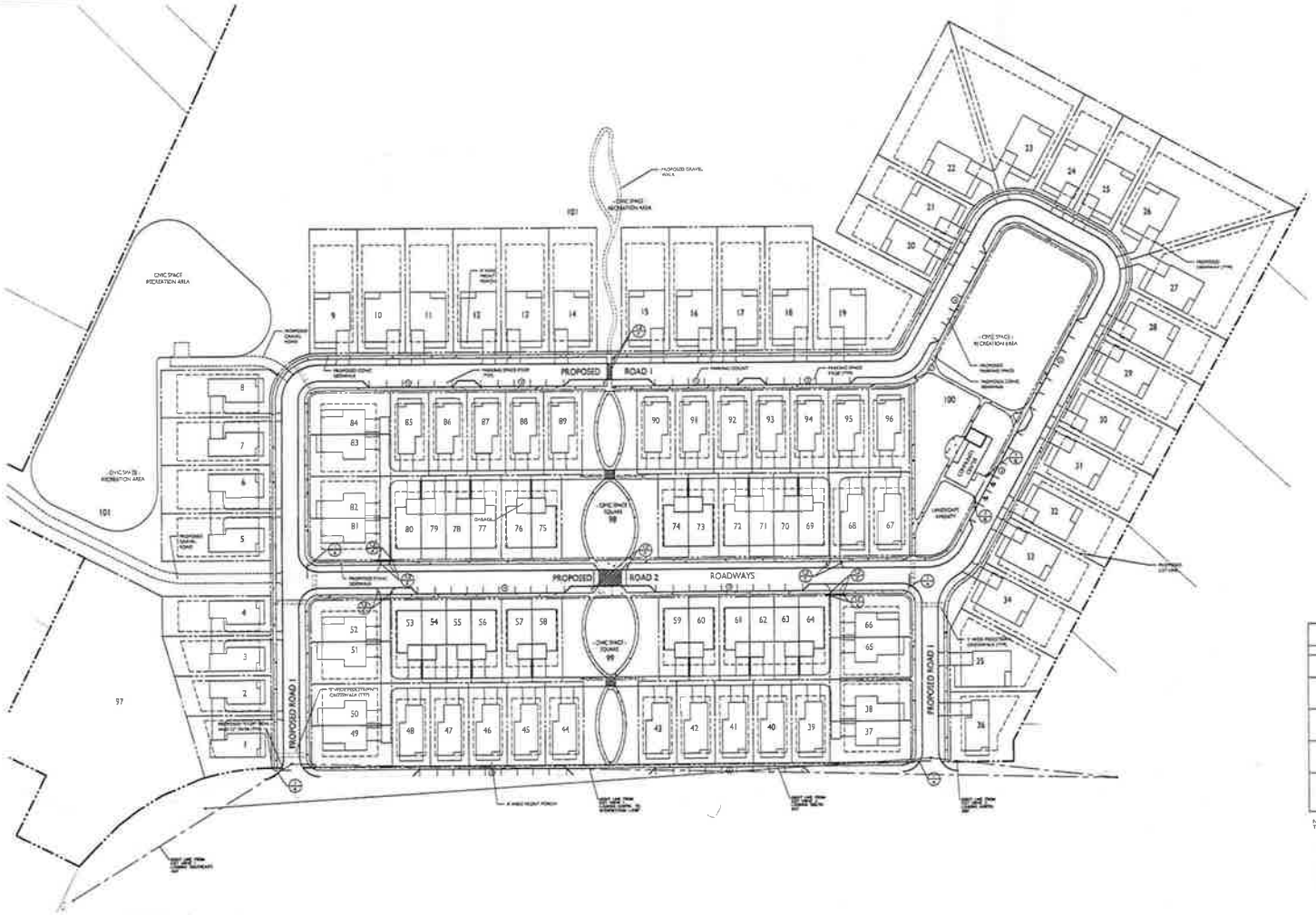
HOFFMAN PROPERTY
RED HOOK, NY

SITE LOCATION MAP

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
1	



SIGN LEGEND

NO	LEGEND	QTY
A	STOP	4
B	FROM BELT	1
C	PLEASE DRIVE SLOWLY	4
D	SIDE WALK	1
E	SIDE WALK CROSSWALK	1
F	PLEASE DRIVE SLOWLY	4

NOTE: SIGNAGE TO BE CONSISTENT WITH TOWN/STATE AND MUTCD STANDARDS

SIGN
SIGN LEGEND NO.

LEGEND

PROPOSED ASPHALT PAVEMENT
PROPOSED CONCRETE SIDEWALK
PROPOSED SIGN
PROPOSED CURB

TND Unit Type Summary:

Homes	40
Cottages	20
Townhomes	36
Duplex	20
Total	116

(20% of 93 = 19 units; 20% of 96-108 = 20 units)

Setback Information:

(REAR YARD=25' MIN OF MAX.)
SIDE YARD=10' MIN.)
REAR YARD=30' MIN.)

Proposed Open Space Summary:

SIZE (AC)	LOT	PROPOSED USE
33.00	Portions of Lot 100	Wetlands and water

Proposed Civic Space Summary:

SIZE (AC)	LOT	PROPOSED USE
0.46	Lot 98	Square
0.46	Lot 99	Square
1.08	Lot 100	Green Space/Community Center
1.50	Portion of Lot 101	Green Space

TOTAL 3.50 AC (6.9%)

PROPERTY NOTES

1. BOUNDARY AS SHOWN IS APPROXIMATE PER PARIS WOLSH SURVEY. NO FLOOD PLAIN LOCATED ON-SITE

2. WETLANDS DELINEATED OCTOBER 2004, OCTOBER 2011 BY ECOLOGICAL SOLUTIONS WETLTS BY NYSDEC

GRAPHIC SCALE

1 IN FEET 1
1 inch = 50 ft.

KIRCHHOFF PROPERTIES

LRC

SITE PLAN SHEET

HOFFMAN PROPERTY

Old Farm Road
Town of Red Hook
Dutchess County New York

SP-1

3. DESCRIPTION OF EXISTING ROADWAYS & TRANSPORTATION SYSTEM

The site will have direct access to Old Farm Road. A description of this and the other key area roadways serving the site is provided below. Photos of portions of Old Farm Road and other area roadways are also included in this section of the report to provide an understanding of each roadway.

Old Farm Road is a two lane roadway which originates at an "All Way" Stop sign controlled intersection with Cambridge Drive. It continues in a southerly direction passing the site and then turning in an easterly direction passing commercial properties including the Lyceum Cinemas and the Bagel Shoppe Plaza. It terminates at U.S. Route 9 (South Broadway) at a Stop sign controlled "T" intersection. This roadway has no visible center line striping and has a posted 30 MPH speed limit. No curbs or sidewalks exist on either side of the roadway. There is an existing driveway to 50-52 Old Farm Road, a small commercial building located generally across the street from the site. There is a "No Parking" sign posted 11PM to 6AM, November 1st to April 1st. The intersection of Old Farm Road with Cambridge Drive is an "All Way Stop" sign controlled intersection with painted stop bars and no centerline striping. There is also a sign posted indicating a bike route on the west side Old Farm Road traveling southbound from Cambridge Drive. Limited pedestrian activity was observed along this roadway at the time of the surveys.

U.S. Route 9 (South Broadway) is the major arterial which traverses in a north/south direction throughout Dutchess County. In the vicinity of the site, in the Town of Red Hook, it consists of one lane per direction and has pavement markings for a southbound passing zone at the Old Farm Road intersection. The posted speed in this area is 40 MPH. Note that in the Village to the north, the speed limit on U.S. Route 9 is 30mph. U.S. Route 9 has a traffic signal located at the intersection with West Market Street (NYS Route 199). North of this intersection, U.S. Route 9 has sidewalks on either side. The traffic signal is NYSDOT Signal D-6. Note that U.S. Route 9 is also a designated bike route. Sidewalks and pedestrian crossings with hand signals are located at each corner of the U.S. Route 9 intersection with NYS Route 199. On-street parking is permitted on U.S. Route 9 immediately south and north of the intersection. It should also be noted that south of NYS Route 199, there is a municipal parking lot on Prince Street on the west side of U.S. Route 9 and a crosswalk on U.S. Route 9 at Prince Street which is signed to indicate the pedestrian crossing. U.S. Route 9 has a double yellow centerline and is also known as South Broadway in the Village. Signs are posted indicating a 2 hour parking limit.

The roadway posted speed limit on U.S. Route 9 south of Amherst Road changes to 40mph and it also has a narrow shoulder. There is a sidewalk on the west side of U.S. Route 9 throughout this area but not a continuous sidewalk on the east side.

There are sidewalks north and south of Old Farm Road on the west site side of U.S. Route 9 but none on the east side of U.S. Route 9. U.S. Route 9 has a passing zone in the vicinity of Old Farm Lane and a traffic signal is located at Rokeby and Hannaford Drive intersection, which also has separate left turn lanes.

Note that based on the Highway Capacity Manual categories, there is light pedestrian activity along U.S. Route 9 except in the Village area where pedestrians are at moderate levels with some moderate to high levels at the NYS Route 199 intersection especially on Saturday afternoons.

Hannaford Drive is one lane each direction with a double yellow centerline plus a sidewalk leading from the store out to U.S. Route 9. It has a speed limit of 35mph.

Amherst Road and Cambridge Drive are both local roads which provide a connection between U.S. Route 9 and Old Farm Road. These roadways are two lane roadways with no sidewalks and have 30mph posted speed limits. Amherst Road originates at U.S. Route 9 at a "Stop" sign controlled intersection and traverses in a westerly direction intersecting with Cambridge Drive at a "Stop" sign controlled intersection. Cambridge Drive extends from there in a southwesterly direction and intersecting with Old Farm Road at an "All Way Stop" controlled location.

Ham Memorial Firehouse Lane is a two lane roadway which intersects with U.S. Route 9 at a "Stop" sign controlled intersection offset to the south of Amherst Road. The roadway has a sidewalk on the south side and has a 30mph posted speed limit.

Loop Bus Service – Route C

Dutchess County provides bus service for the area via the Loop Bus System with Route C operating along U.S. Route 9 in the vicinity of the site. A copy of the schedule and the stop locations are shown in Appendix "A". The service runs between Tivoli and Poughkeepsie.

AMHERST ROAD LOOKING EB @ U.S. ROUTE 9

U.S. ROUTE 9 LOOKING SB @ AMHERST ROAD

U.S. ROUTE 9 LOOKING NB @ M.M. HAM MEMERIAL FIRE HOUSE LANE

M.M. HAM MEMERIAL FIRE HOUSE LANE LOOKING WB @ U.S. ROUTE 9

CAR QUEST PARKING LOT LOOKING EB @ U.S. ROUTE 9

METZGER ROAD LOOKING WB @ U.S. ROUTE 9

U.S. ROUTE 9 LOOKING NB @ METZGER ROAD

U.S. ROUTE 9 LOOKING SB @ CAR QUEST

OLD FARM ROAD @ CINEMA DRIVE

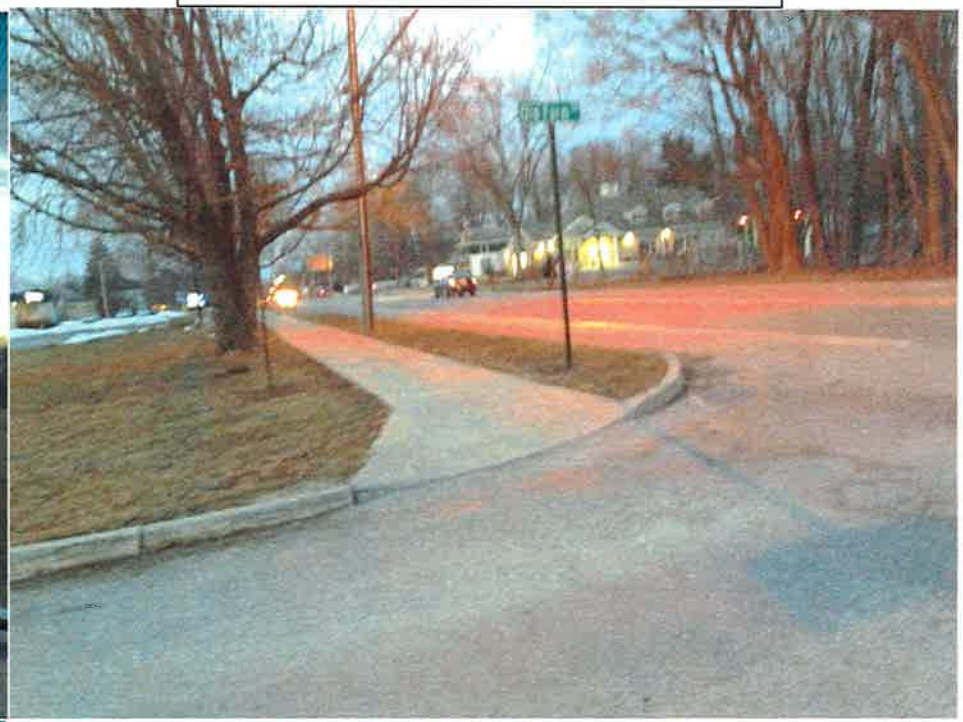
OLD FARM ROAD @ WEST OF CINEMA DRIVE

OLD FARM ROAD SB @ SOUTH OF CAMBRIDGE DRIVE

CAMBRIDGE DRIVE @ OLD FARM ROAD

OLD FARM ROAD SB @ SITE FRONTAGE

OLD FARM ROAD @ U.S. ROUTE 9 LOOKING NB



OLD FARM ROAD EB & BAGEL SHOPPE PLAZA

ROKEBY ROAD LOOKING EB @ U.S. ROUTE 9

HANNAFORD DRIVE LOOKING WB @ U.S. ROUTE 9

U.S. ROUTE 9 LOOKING NB @ HANNAFORD DRIVE

U.S. ROUTE 9 LOOKING SB @ HANNAFORD DRIVE

U.S. ROUTE 9 LOOKING SB @ E/W MARKET STREET

WEST MARKET STREET LOOKING EB @ U.S. ROUTE 9

EAST MARKET STREET LOOKING WB @ U.S. ROUTE 9

EAST MARKET STREET LOOKING WB @ U.S. ROUTE 9

4. YEAR 2012 EXISTING TRAFFIC VOLUMES (Figures No. 2 and 3)

Detailed turning movement traffic counts were collected at the following intersections in the vicinity of the site during the weekday AM and PM periods. The locations surveyed included the following:

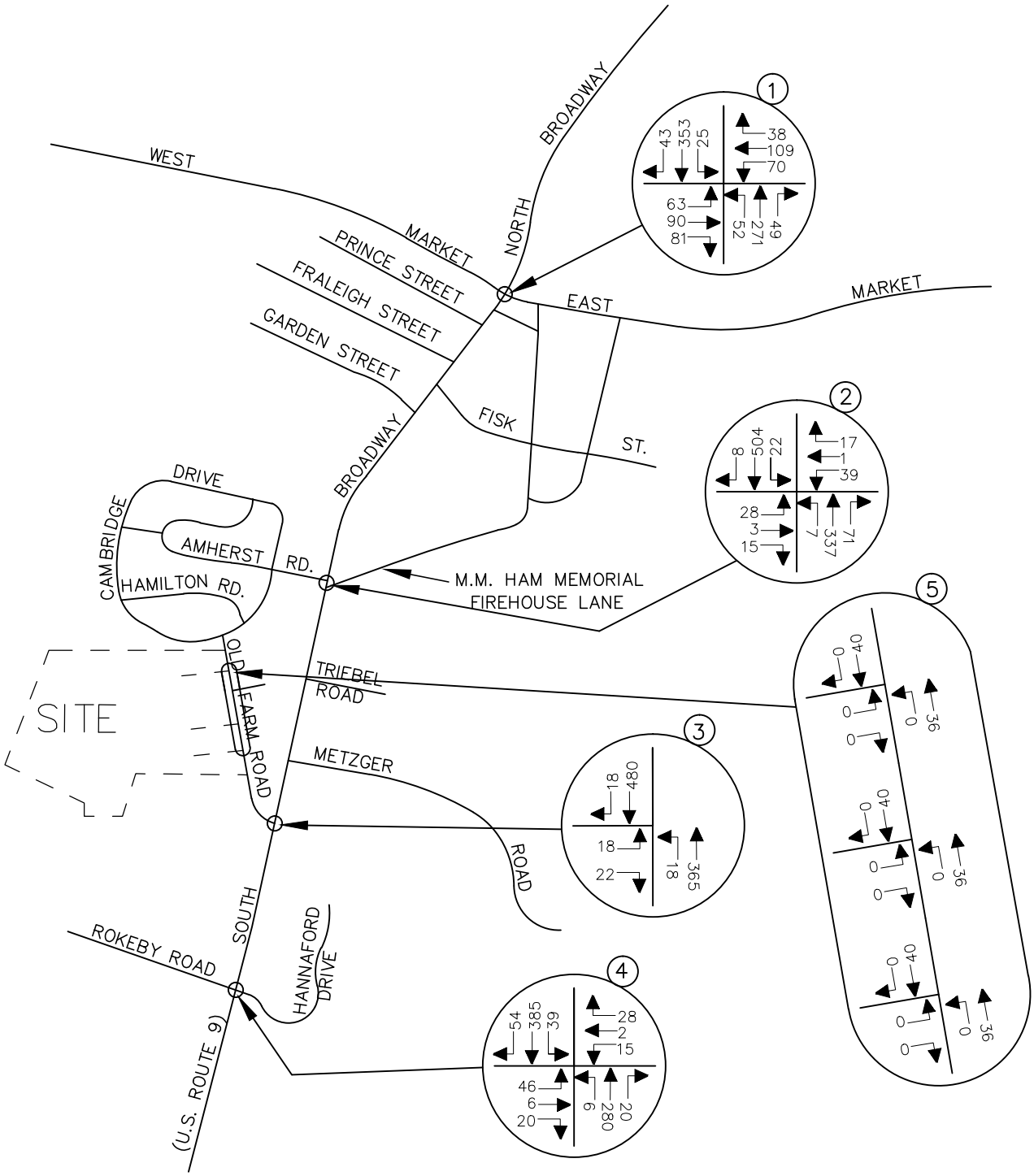
- U.S. Route 9 and NYS Route 199 (East/West Market)
- U.S. Route 9 and Old Farm Road
- U.S. Route 9 and Ham Memorial Firehouse Lane/Amherst Road
- U.S. Route 9 and Hannaford Drive/Rokeby Road

These intersections were identified based on a review of the roadway network and its relationship to the existing travel patterns in the area and as well as those expected for vehicle traveling to and from the site as well as initial discussions with the Town Planner. These intersections are focused along the U.S. Route 9 corridor since that is the primary destination for the majority of anticipated vehicle trips.

The turning movement traffic counts were collected during the month of June 2012, summarized and compared with other count data available data from our files and from the New York State Department of Transportation to establish the existing peak hour traffic volumes. The referenced DOT machine traffic counts for the U.S. Route 9 corridor are included in Appendix "B". Copies of our manual traffic counts are now contained in Appendix "E". The traffic counts were collected between the hours of 6:30 AM to 9:30 AM and 3:30 PM to 7:00 PM on four (4) consecutive days from June 4th to the 7th in 2012. Based on a review of the counts, the actual peak hours were identified to generally occur as follows:

- Weekday Peak AM Highway Hour 7:45 AM – 8:45 AM
- Weekday Peak PM Highway Hour 4:30 PM – 5:30 PM

The resulting 2012 Existing Traffic Volumes are shown on Figures No. 2 and 3.



NOTE: LINE DIAGRAM NOT TO SCALE

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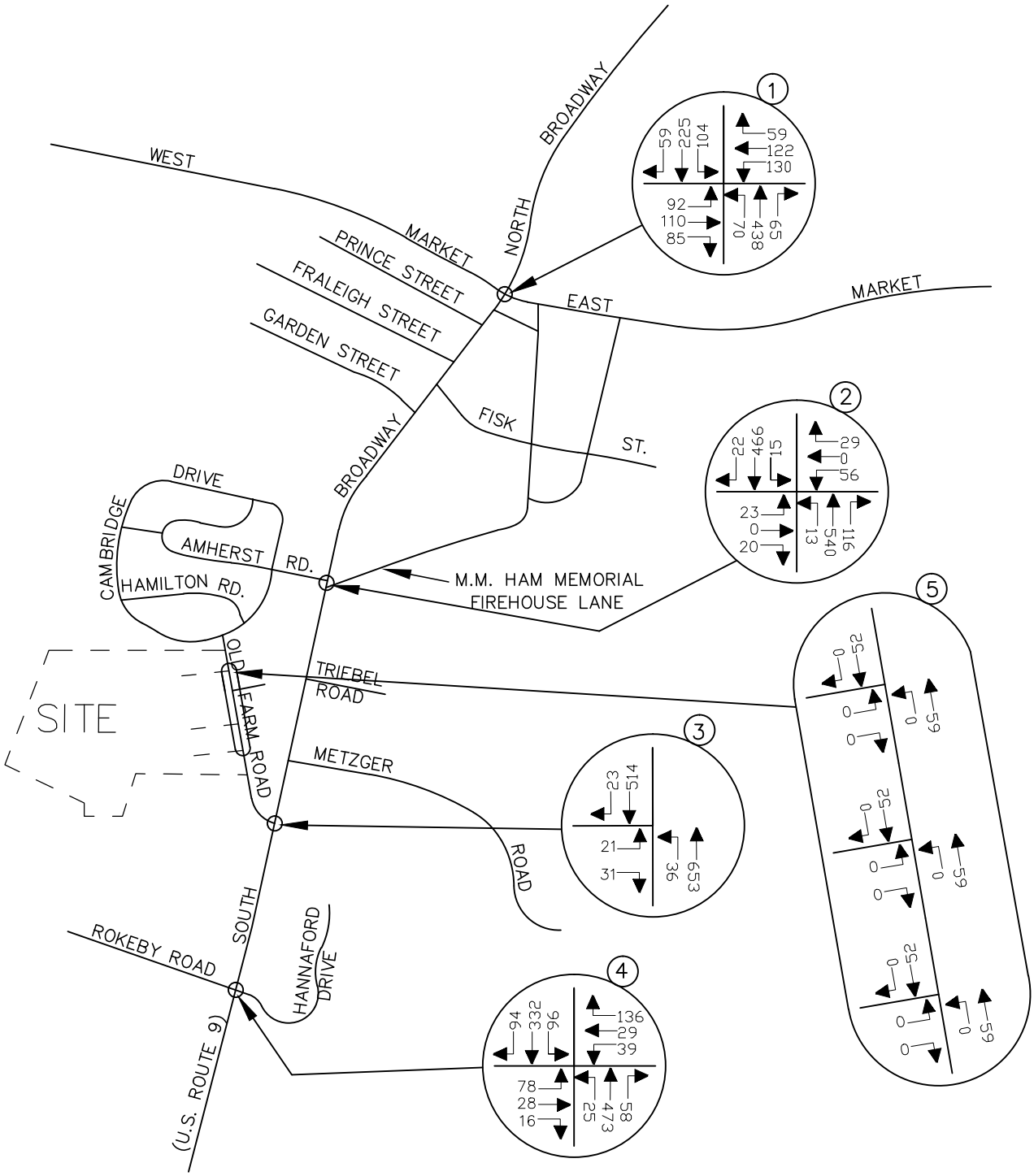
RED HOOK, NY

2012 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
2	



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RED HOOK, NY

2012 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
3	

5. ACCIDENT DATA (Table A and Figure No. A-1)

All available accident data for the key area roadways was obtained from the New York State Department of Transportation. Table A summarizes the data for the locations shown on Figure No. A-1. A review of these data indicates the majority of accidents were classified as "failure to yield right of way," "driver inattention" or "following too closely" and no particular location indicated a high accident location.

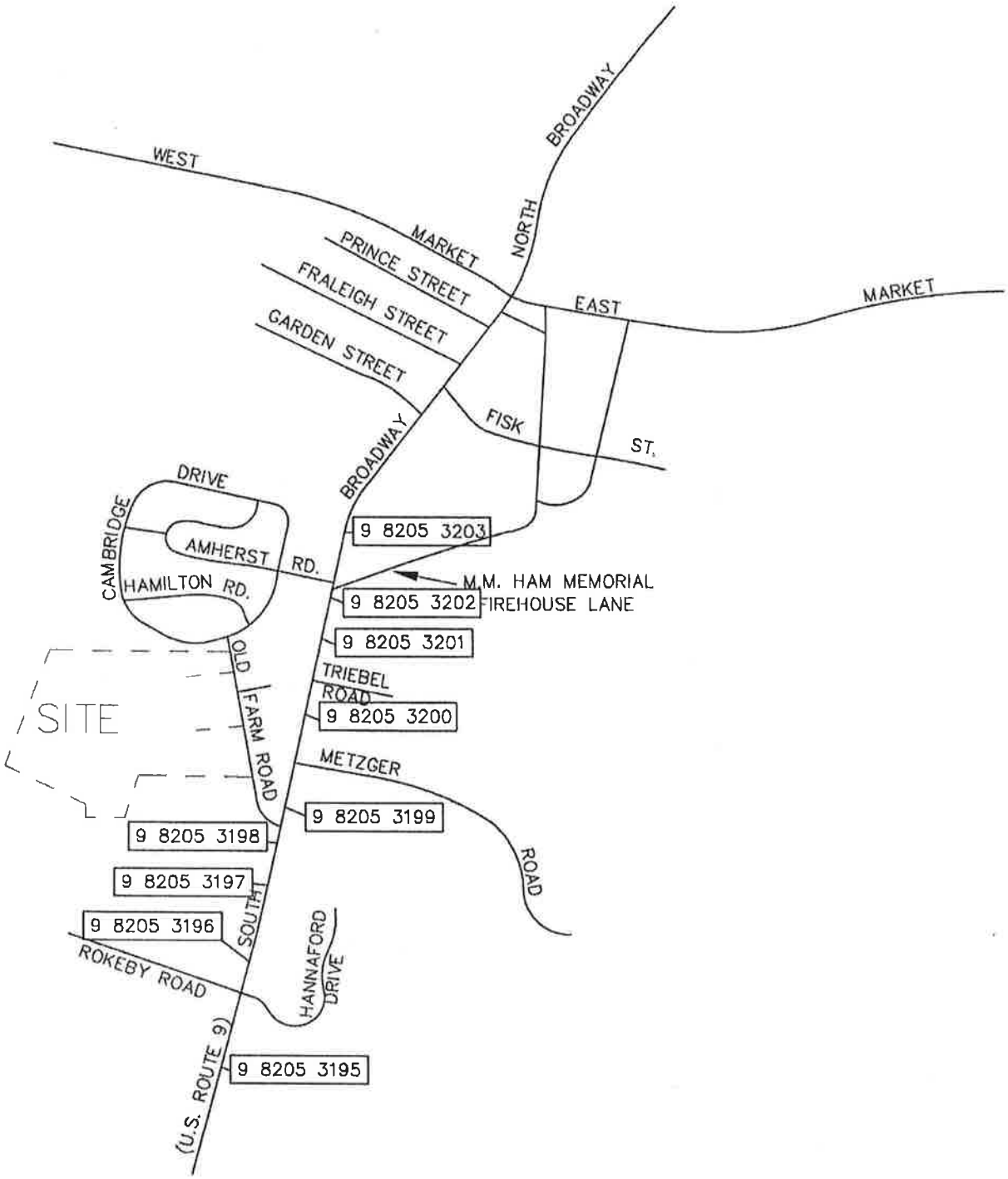
6. YEAR 2017 NO-BUILD TRAFFIC VOLUMES (Figure No. 4 through 9)

The 2012 Existing Traffic Volumes were projected to the 2017 design year utilizing a background growth factor. A review of the NYSDOT Traffic Volume Data was referenced to develop information on historical growth on this section of U.S. Route 9. A copy of the referenced information is contained in Appendix "B". Based on historical information including data published by the New York State Department of Transportation, a background growth factor of 1% per year was utilized in projecting the existing traffic volumes to the 2017 Design Year. The resulting volumes are shown on Figures No. 4 and 5 for the AM and PM peak hours. In addition, traffic from other proposed or potential developments in the area including Red Oaks Senior Community and Anderson Commons are shown on Figures No. 6 and 7. These other development traffic volumes included in the No-Build scenario were based on previous studies completed in the area. Specific figures showing the Site Generated Traffic and the location for these other developments are now included in Appendix "E". These volumes were added together with the 2017 Projected Traffic Volumes to obtain the 2017 No-Build Traffic Volumes are shown on Figures No. 8 and 9 for each of the peak hours.

It should be noted that traffic volume projections in the area of the site have not materialized since the 2012 Existing Traffic Volumes counts were collected, therefore, considering the use of the 1% per year growth rate and the inclusion of volumes associated with other area developments, the 2017 traffic volumes are actually representative of a 2018 or 2019 design year.

7. SITE GENERATED TRAFFIC VOLUMES (Table No. 1)

Estimates of the expected site generated traffic volumes for the proposed development were computed based on information published by the Institute of Transportation Engineers (ITE) as contained in their report entitled Trip Generation, 9th, 2012 edition was referenced. Table No. 1 summarizes the peak hour trip generation rates and corresponding site generated traffic volumes for each of the peak periods. The table separates the entering and exiting volumes for the AM and PM Peak Hours.



= APPROXIMATE MILE MARKER LOCATION

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RED HOOK, NY

ACCIDENT LOCATION FIGURE

JOB NUMBER:	DATE:
12100092A	APRIL 2013
FIGURE NUMBER:	
A-1	

TABLE A

Summary of Accident Data (January 2009 Thru April 2012)
U.S. Route 9 between Amherst Road and Hannaford Drive - Town of Red Hook, Dutchess County, New York

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	Non Intersection Accidents										
	South of Rokeby Road										
9 8205 3195		07/12/09	12:37 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Following too Closely
9 8205 3195		07/04/10	1:50 PM	Traffic Signal	I	2-1	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3195		02/13/11	7:10 PM	No Passing Zone	PDO	1-0	Dark-Road Unlighted	Dry	Cloudy	Other	Animal's Action
9 8205 3195		11/04/11	7:00 AM	None	PDO	1-0	Dawn	Dry	Clear	Other	Animal's Action
9 8205 3195		01/07/12	6:20 PM	None	PDO	1-0	Dark-Road Unlighted	Dry	Clear	Other	Animal's Action
	Between Rokeby Road/Hannaford & Conway's										
9 8205 3196		12/09/09	3:21 AM	No Passing Zone	PDO	1-0	Dark-Road Lighted	Snow/Ice	Snow	Other	Animal's Action
9 8205 3196		04/09/10	3:48 PM	No Passing Zone	PDO	3-0	Daylight	Dry	Cloudy	Other	Following too Closely, Driver Inattention
9 8205 3196		10/11/10	4:20 PM	Traffic Signal	PD & I	2-1	Daylight	Dry	Clear	Rear End	Reaction to Other Uninvolved Vehicle
9 8205 3196		01/01/11	9:50 AM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Overtaking	Turning Improper
9 8205 3196		04/10/11	4:20 PM	None	N/A	2-0	Daylight	Dry	Clear	Overtaking	Turning Improper
9 8205 3196		08/05/11	4:00 PM	None	PDO	2-0	Daylight	Dry	Clear	Left Turn	Failure to Yield Right of Way
9 8205 3196		09/05/11	3:15 PM	None	N/A	2-0	Daylight	Wet	Rain	Rear End	Following too Closely
9 8205 3196		12/01/11	2:00 PM	None	PDO	2-0	Daylight	Dry	Clear	Left Turn	Failure to Yield Right of Way
9 8205 3196		04/21/12	11:28 AM	None	N/A	2-0	Daylight	Dry	Cloudy	Rear End	Driver Inattention
9 8205 3196		07/24/12	3:40 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Cloudy	Right Angle	Unsafe Lane Change
	Between Conway's & Bottini Fuel										
9 8205 3197		07/08/09	1:55 PM	Work Area	PD & I	2-3	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3197		01/17/10	10:31 AM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3197		01/03/11	11:15 AM	No Passing Zone	PD & I	2-1	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3197		02/13/11	11:00 PM	None	PDO	1-0	Dark-Road Unlighted	Dry	Clear	Other	Animal's Action
9 8205 3197		06/09/11	2:15 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Left Turn	Passing or Lane Usage Improperly
9 8205 3197		09/13/11	9:50 PM	No Passing Zone	PDO	1-0	Dark-Road lighted	Dry	Clear	Other	Animal's Action
9 8205 3197		09/13/11	3:22 PM	No Passing Zone	N/A	1-0	Daylight	Dry	Clear	Other	Animal's Action
9 8205 3197		09/21/11	2:29 PM	None	PDO	1-0	Daylight	Dry	Cloudy	Other	Driver Inattention
9 8205 3197		10/11/11	12:45 PM	None	PDO	2-0	Daylight	Dry	Clear	Rear End	Following too Closely
9 8205 3197		11/17/12	6:45 PM	None	N/A	2-0	Dark-Road lighted	Dry	Clear	Rear End	Following too Closely
	Between Bottini Fuel & M&T Bank										
9 8205 3198		08/20/09	7:50 PM	No Passing Zone	N/A	2-0	Dusk	Dry	Clear	Rear End	Following too Closely
9 8205 3198		09/24/09	11:05 AM	None	N/A	1-0	Daylight	Dry	Cloudy	Other	Illness
9 8205 3198		10/28/09	5:00 PM	No Passing Zone	N/A	1-0	Daylight	Wet	Rain	Other	Driver Inattention, Pavement Slippery
9 8205 3198		12/10/10	10:15 AM	None	PDO	2-0	Daylight	Dry	Cloudy	Rear End	Driver Inattention, Following too Closely
9 8205 3198		12/12/10	7:20 PM	No Passing Zone	I	1-1	Dark-Road Lighted	Wet	Rain	Other	Driver Inattention
9 8205 3198		06/06/12	3:21 PM	None	N/A	2-0	Daylight	Dry	Cloudy	Rear End	Driver Inattention
9 8205 3198		09/23/12	7:00 AM	Other	PDO	1-0	Daylight	Dry	Clear	Other	Animal's Action
9 8205 3198		12/02/12	4:42 PM	No Passing Zone	PD & I	2-2	Dark-Road Unlighted	Dry	Cloudy	Rear End	Following too Closely
	Between M&T Bank & Metzger Rd										
9 8205 3199		04/23/09	4:50 PM	None	PD & I	2-1	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3199		10/22/10	7:10 PM	Stop Sign	PDO	2-0	Dark-Road Lighted	Dry	Clear	N/A	Failure to Yield Right of Way
	Between Metzger Rd & Triebels Garage										
9 8205 3200		10/07/09	2:55 PM	None	N/A	1-0	Daylight	Dry	Clear	Other	Obstruction/ Debris
9 8205 3200		12/12/09	2:38 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Following too Closely, Driver Inattention
9 8205 3200		06/23/10	8:30 AM	None	N/A	2-0	Daylight	Dry	Clear	Right Angle	Backing Unsafely
9 8205 3200		11/23/10	9:00 AM	None	PDO	2-0	Daylight	Dry	Cloudy	N/A	Failure to Yield Right of Way
9 8205 3200		10/28/11	7:21 AM	No Passing Zone	PDO	3-0	Daylight	Snow/Ice	Clear	Other	Unsafe Speed, Pavement Slippery
9 8205 3200		03/05/12	8:55 AM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Driver Inattention

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

TABLE A

Summary of Accident Data (January 2009 Thru April 2012)
U.S. Route 9 between Amherst Road and Hannaford Drive - Town of Red Hook, Dutchess County, New York

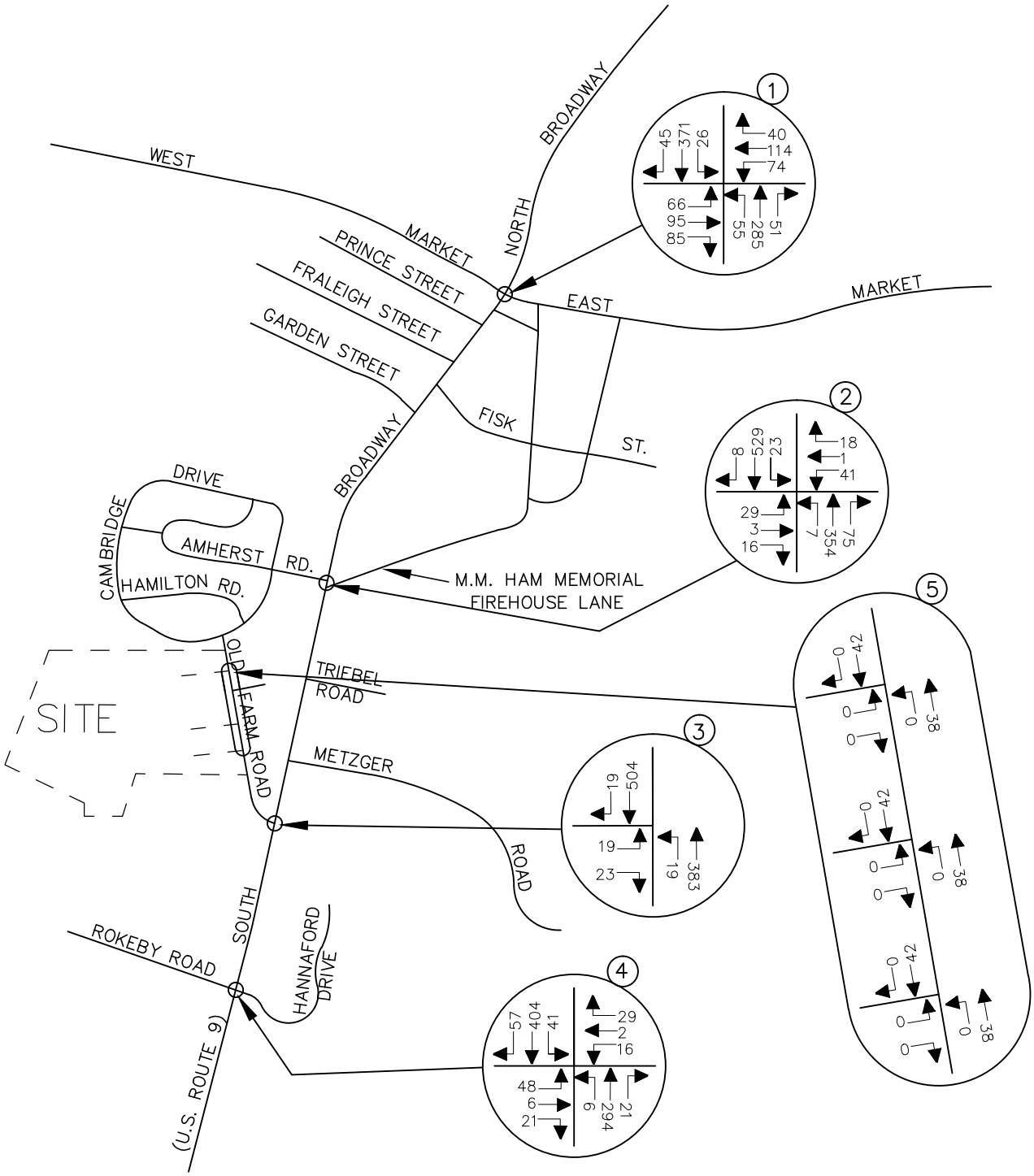
NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	Between Triebels & Colburn Drive										
9 8205 3201		12/09/10	3:05 PM	None	N/A	2-0	Daylight	Dry	Clear	Overtaking	Driver Inexperience, Following too Closely
9 8205 3201		10/27/11	1:41 PM	None	PDO	1-0	Daylight	Wet	Rain	Other	Driver Inattention
9 8205 3201		02/17/12	2:05 PM	None	PDO	2-0	Daylight	Dry	Clear	Right Turn	Fell Asleep
	Between Colburn Dr & Amherst Rd										
9 8205 3202		04/07/09	10:35 AM	Stop Sign	N/A	2-0	Daylight	Wet	Cloudy	Right Angle	Failure to Keep Right, Unsafe Speed
9 8205 3202		04/30/09	N/A	Stop Sign	PDO	2-0	Daylight	Dry	Clear	N/A	N/A
9 8205 3202		01/20/10	4:30 AM	Stop Sign	PDO	2-0	Dark-Road Lighted	Snow/Ice	Clear	Right Angle	Failure to Yield Right of Way, Pavement Slippery
9 8205 3202		02/26/11	10:30 AM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Driver Inattention, Following too Closely
9 8205 3202		05/17/11	1:34 PM	None	N/A	2-0	Daylight	Dry	Clear	Rear End	Backing Unsafely
9 8205 3202		06/20/11	7:55 PM	Stop Sign	PDO	2-0	Daylight	Dry	Clear	N/A	Turning Improper
9 8205 3202		07/12/11	1:30 PM	Stop Sign	N/A	2-0	Daylight	Dry	Clear	Rear End	Backing Unsafely
9 8205 3202		11/18/11	2:17 PM	None	PDO	2-0	Daylight	Dry	Clear	Rear End	Driver Inattention
9 8205 3202		11/09/12	5:40 PM	None	N/A	1-0	Dark-Road Lighted	Dry	Cloudy	Other	Failure to Yield Right of Way, Driver Inattention
	Between Amherst Rd & Northern Dutchess Archery										
9 8205 3203		07/30/09	9:30 PM	None	N/A	1-0	Dark-Road Lighted	Dry	Clear	Other	Animal's Action
	At Intersection Accidents										
	At Rokeby Road/Hannaford										
9 8205 3196		08/20/09	7:30 AM	N/A	PDO	1-0	N/A	N/A	N/A	Other	N/A
9 8205 3196		08/29/09	3:58 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Cloudy	Rear End	Following too Closely
9 8205 3196		09/12/09	11:42 AM	None	PDO	1-0	Daylight	Wet	Cloudy	Other	Unsafe Speed, Pavement Slippery
9 8205 3196		02/11/10	3:10 PM	None	N/A	1-0	Daylight	Dry	Clear	Other	Drugs (illegal), Passing or Lane Usage Improperly
9 8205 3196		12/11/10	3:41 PM	None	PDO	1-0	Daylight	Wet	Rain	Other	Unsafe Speed, Pavement Slippery
9 8205 3196		01/14/11	3:35 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Rear End	Following too Closely
9 8205 3196		02/11/11	10:49 PM	None	PDO	2-0	Dark-Road Unlighted	Dry	Clear	N/A	Turning Improper
9 8205 3196		01/10/12	3:01 PM	Traffic Signal	PD & I	2-1	Daylight	Dry	Cloudy	Right Angle	Failure to Yield Right of Way
9 8205 3196		01/29/12	1:23 AM	Traffic Signal	PD & I	1-2	Dark-Road lighted	Dry	Clear	Other	Unsafe Speed, Aggressive Driving/Road Rage
9 8205 3196		03/21/12	6:57 PM	Traffic Signal	I	1-1	Dark-Road Unlighted	Dry	Clear	Other	Animal's Action
	Metzger Road/Old Post Road										
9 8205 3199		06/04/09	12:28 PM	No Passing Zone	PDO	2-0	Daylight	Dry	Clear	Left Turn	Failure to Yield Right of Way
9 8205 3199		07/15/09	2:15 AM	None	PDO	1-0	Dark-Road Unlighted	Dry	Clear	Other	Unsafe Speed, Aggressive Driving/Road Rage
9 8205 3199		08/12/09	2:30 PM	Stop Sign	PDO	1-0	Daylight	Dry	Cloudy	Other	Unsafe Speed, Turning Improper
9 8205 3199		02/25/10	10:24 AM	No Passing Zone	PD & I	2-1	Daylight	Snow/Ice	Snow	N/A	Unsafe Speed
	On Old Farm Road										
9 8205 3199	At the Intersection	04/23/09	4:50 PM	None	PD & I	2-1	Daylight	Dry	Clear	Rear End	Driver Inattention
	34 Meters West of Unnamed Street	08/11/10	1:05 PM	None	N/A	2-0	Daylight	Dry	Clear	Sideswipe	Backing Unsafely

NOTES:
1) INTERSECTION ACCIDENTS ARE THOSE REPORTED AT THE SPECIFIC INTERSECTION NOTED.

2) NON INTERSECTION ACCIDENTS ARE THOSE OCCURING ON THE SPECIFIC ROAD SEGMENT NOTED

3) SEE FIGURE A-1 FOR APPROXIMATE MILE MARKER LOCATING IN RELATIONSHIP TO THE SIDE STREETS.

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY



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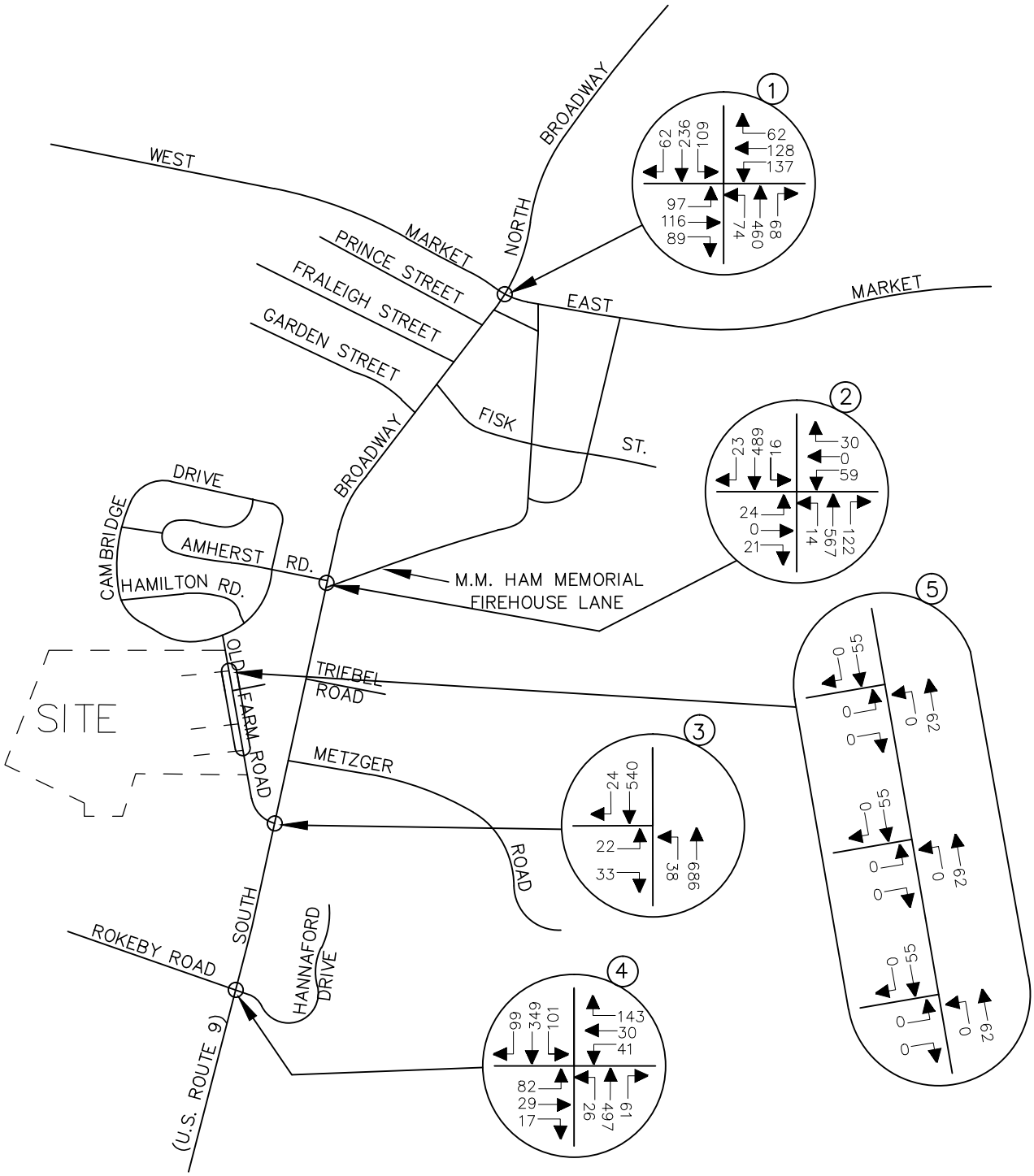
RED HOOK, NY

2017 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
4	



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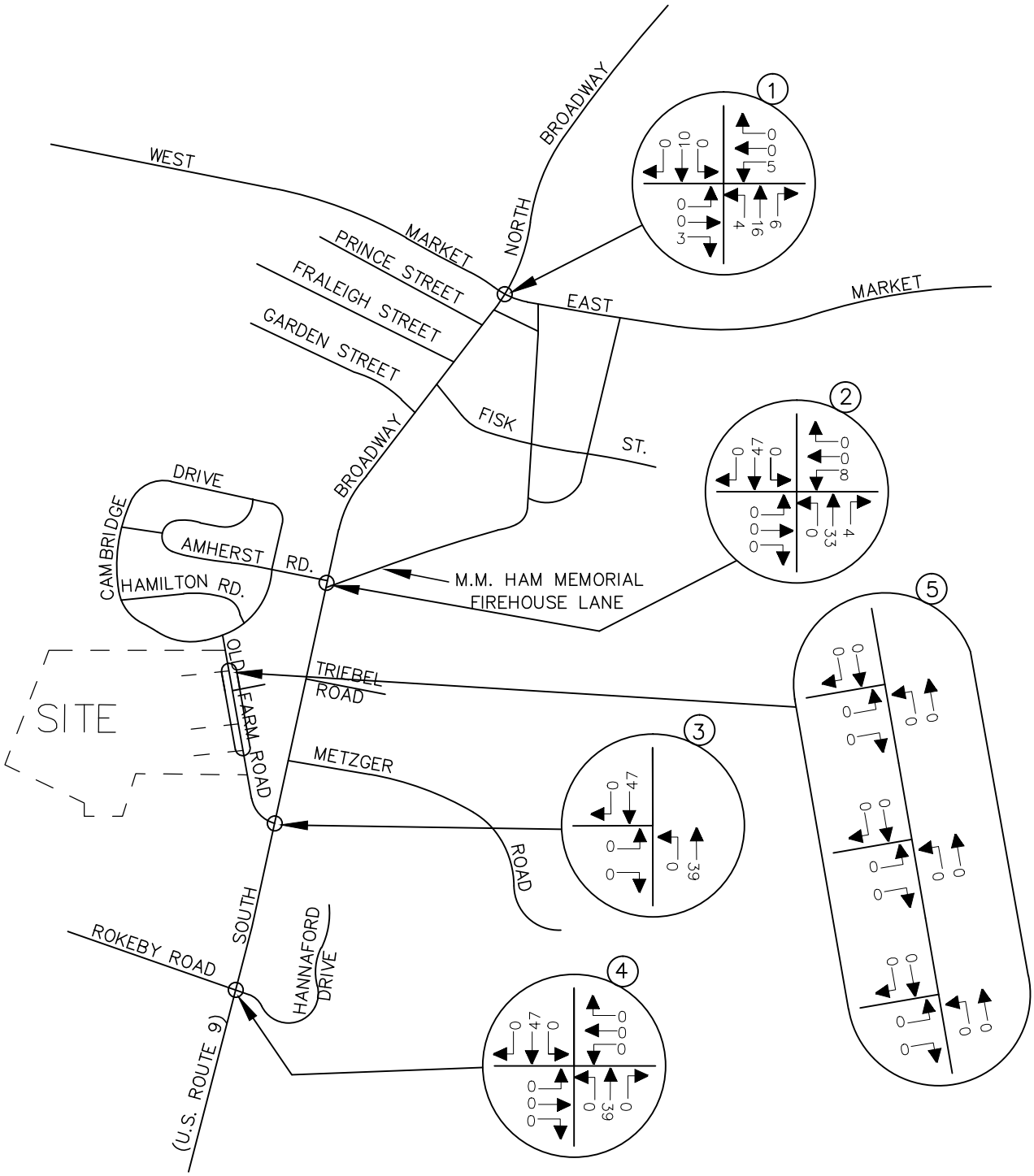
2017 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
5	



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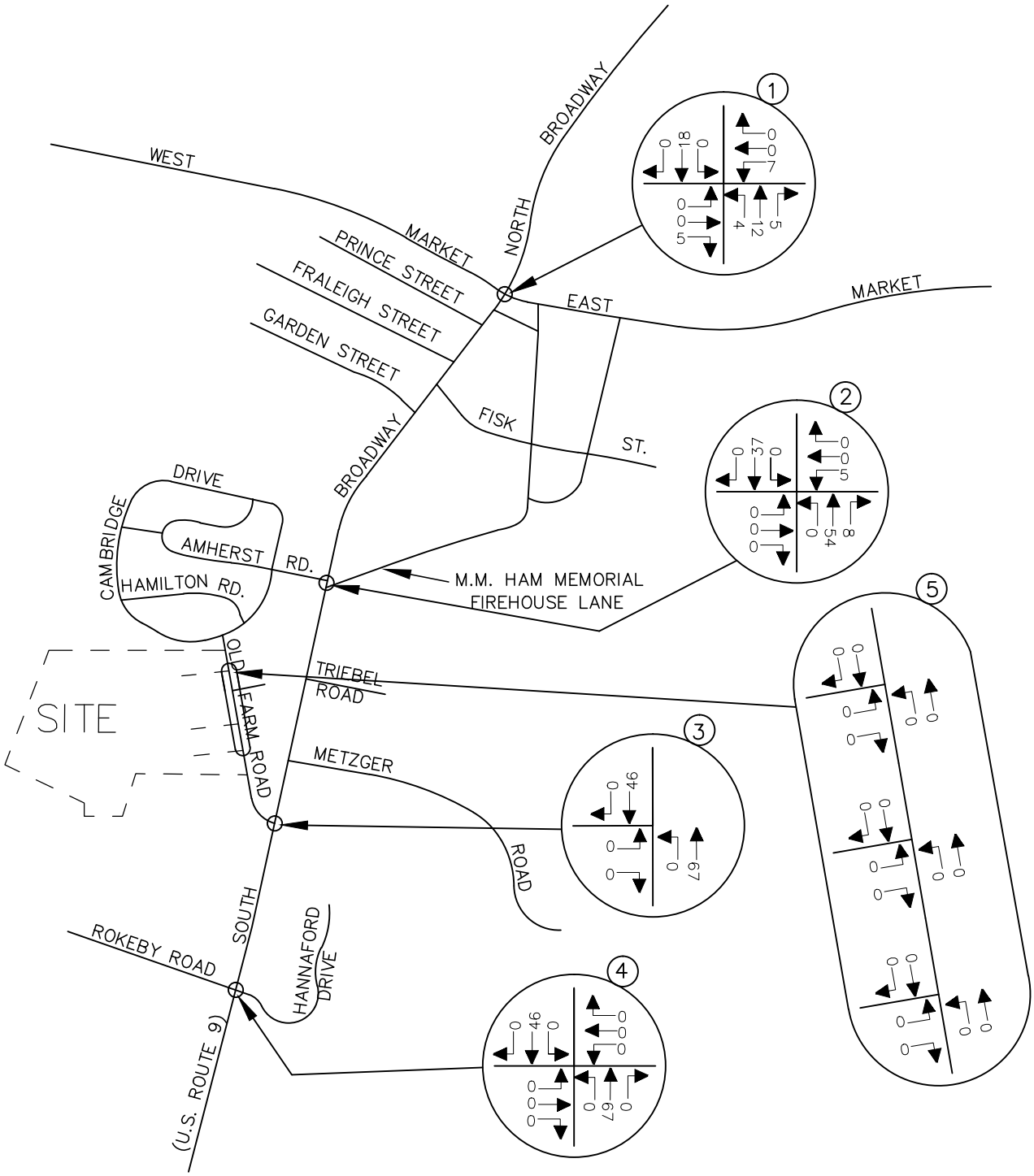
OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
6	



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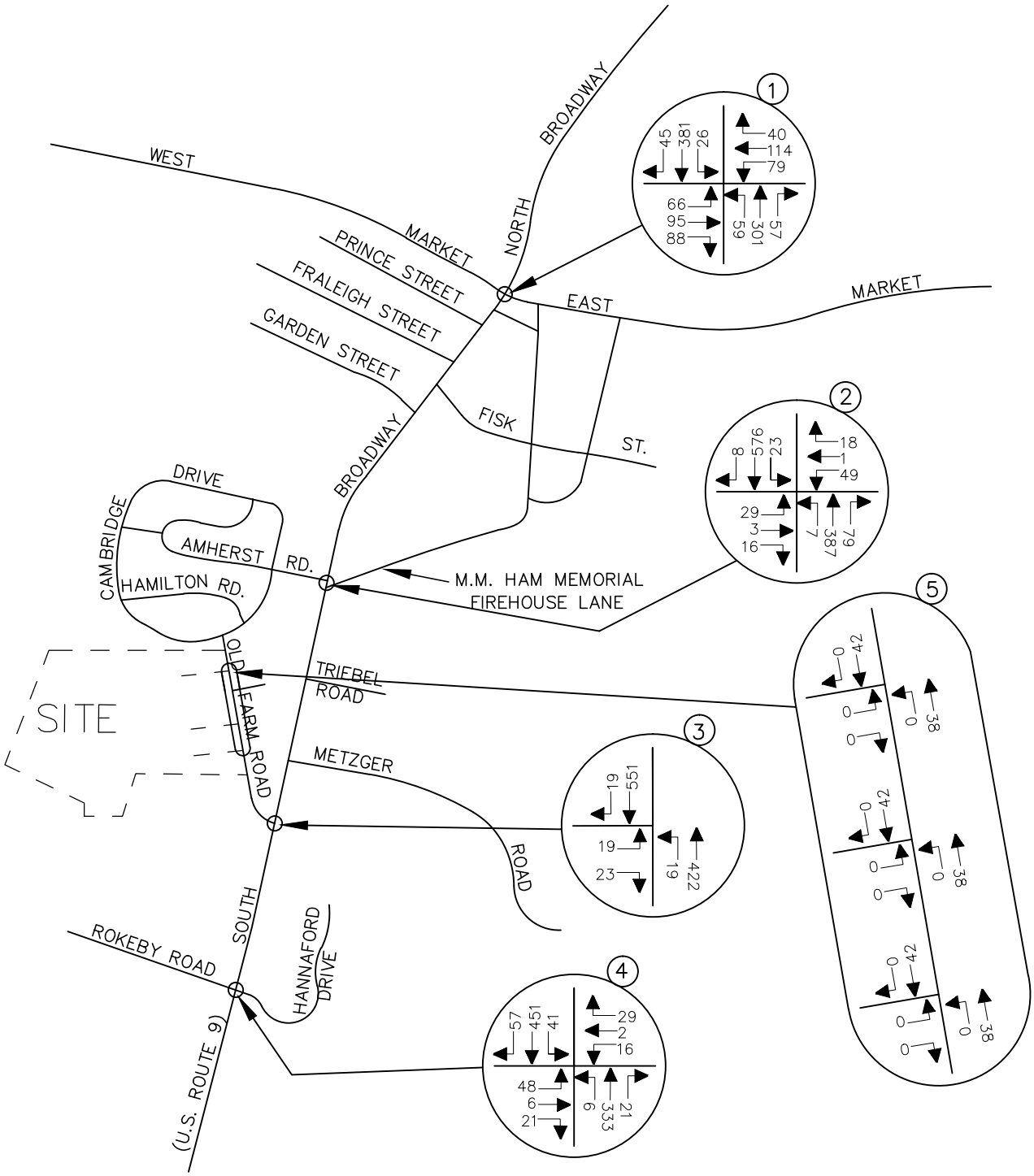
OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
7	



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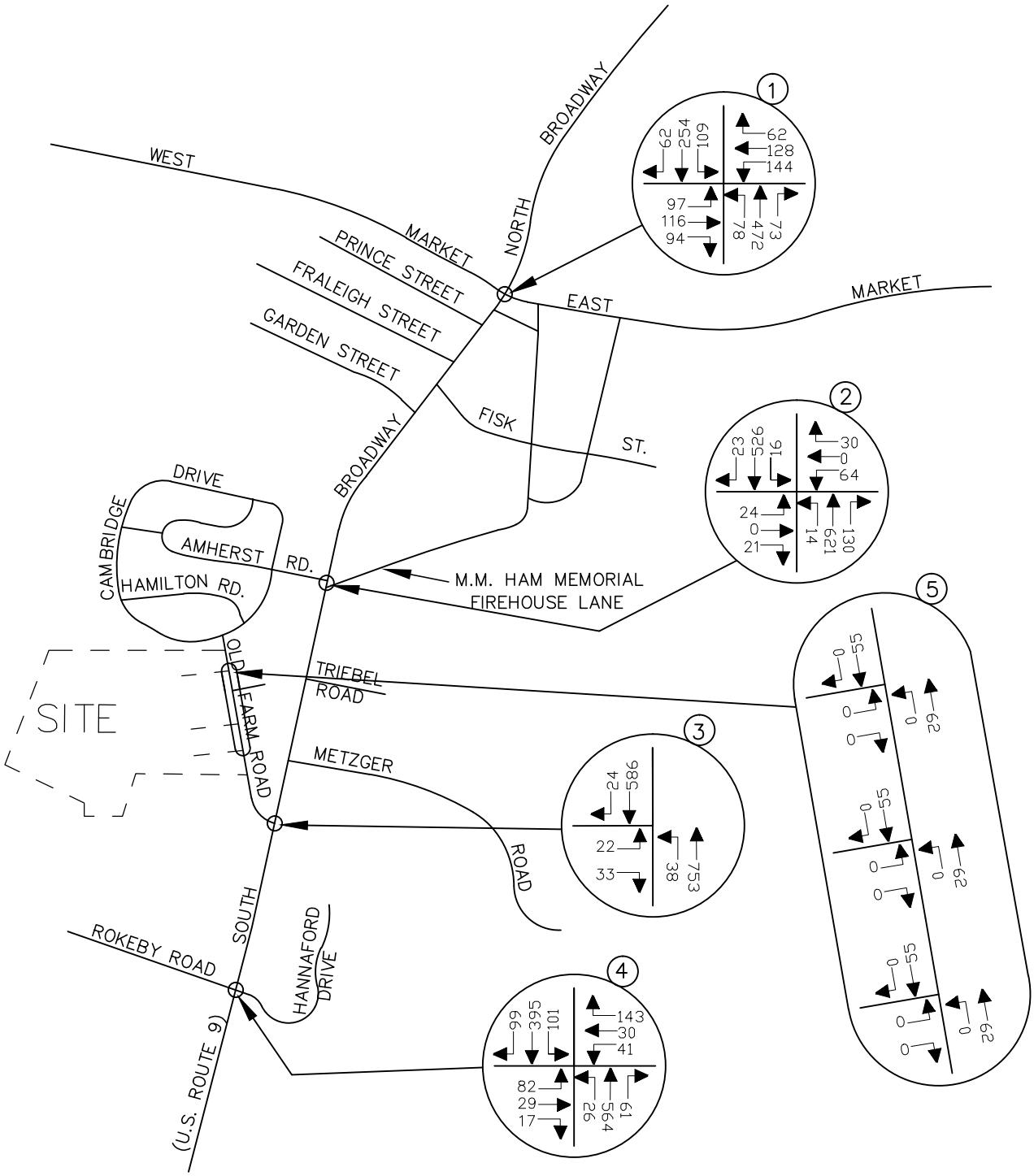
2017 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
8	



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2017 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
9	

TABLE NO. 1

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES

HOFFMAN PROPERTY RED HOOK, NY	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
SINGLE FAMILY (62 DWELLING UNITS)				
PEAK AM HOUR	0.21	13	0.64	40
PEAK PM HOUR	0.69	43	0.41	25
TOWNHOME/COTTAGE HOMES (40 DWELLING UNITS)				
PEAK AM HOUR	0.11	4	0.51	21
PEAK PM HOUR	0.47	19	0.23	9
TOTALS				
PEAK AM HOUR	-	17	-	61
PEAK PM HOUR	-	62	-	34

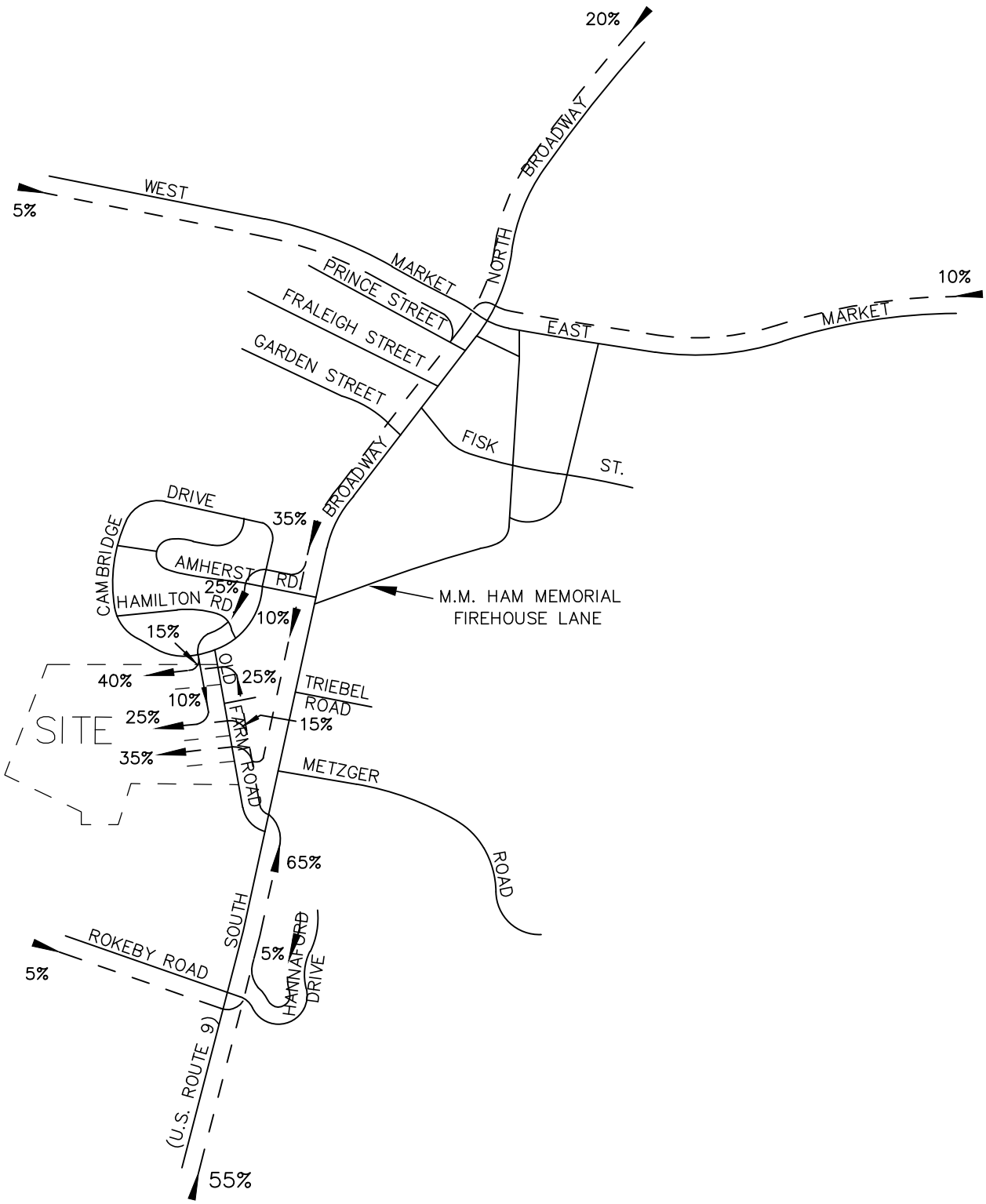
NOTES:
1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 9TH EDITION, 2012. ITE LAND USE CODE - 210 - SINGLE FAMILY & 230 - TOWNHOME.

8. ARRIVAL/DEPARTURE DISTRIBUTION (Figures No. 10 and 11)

Based upon a review of the existing traffic patterns in the area together with review of the type of development proposed, arrival and departure distributions were determined to assign the site generated traffic to the roadway network. These distributions are shown on Figures No. 10 and 11, respectively. Note that the Arrival and Departure Distributions have been expanded to show the expected use of Amherst Road and Cambridge Road. Since these roadways connect to U.S. Route 9, it is anticipated that these roads would serve a portion of the trips destined to the north and northeast of the site. Also note that the traffic volume flows, as indicated in Table 1, are primarily outbound during the morning peak hour and a higher percentage inbound during the afternoon peak hour.

9. 2017 BUILD CONDITIONS TRAFFIC VOLUMES (Figures No. 12 through 15)

The site generated traffic volumes shown on Table No. 1 were added to the roadway network based on the arrival and departure distributions. These site generated traffic volumes are shown on Figures No. 12 and 13 for each of the peak hours. These traffic volumes were then added to the 2017 No-Build traffic volumes to obtain the 2017 Build traffic volumes. The resulting 2017 Build traffic volumes are shown on Figures No. 14 and 15.



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ARRIVAL DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

JOB NUMBER:	DATE:
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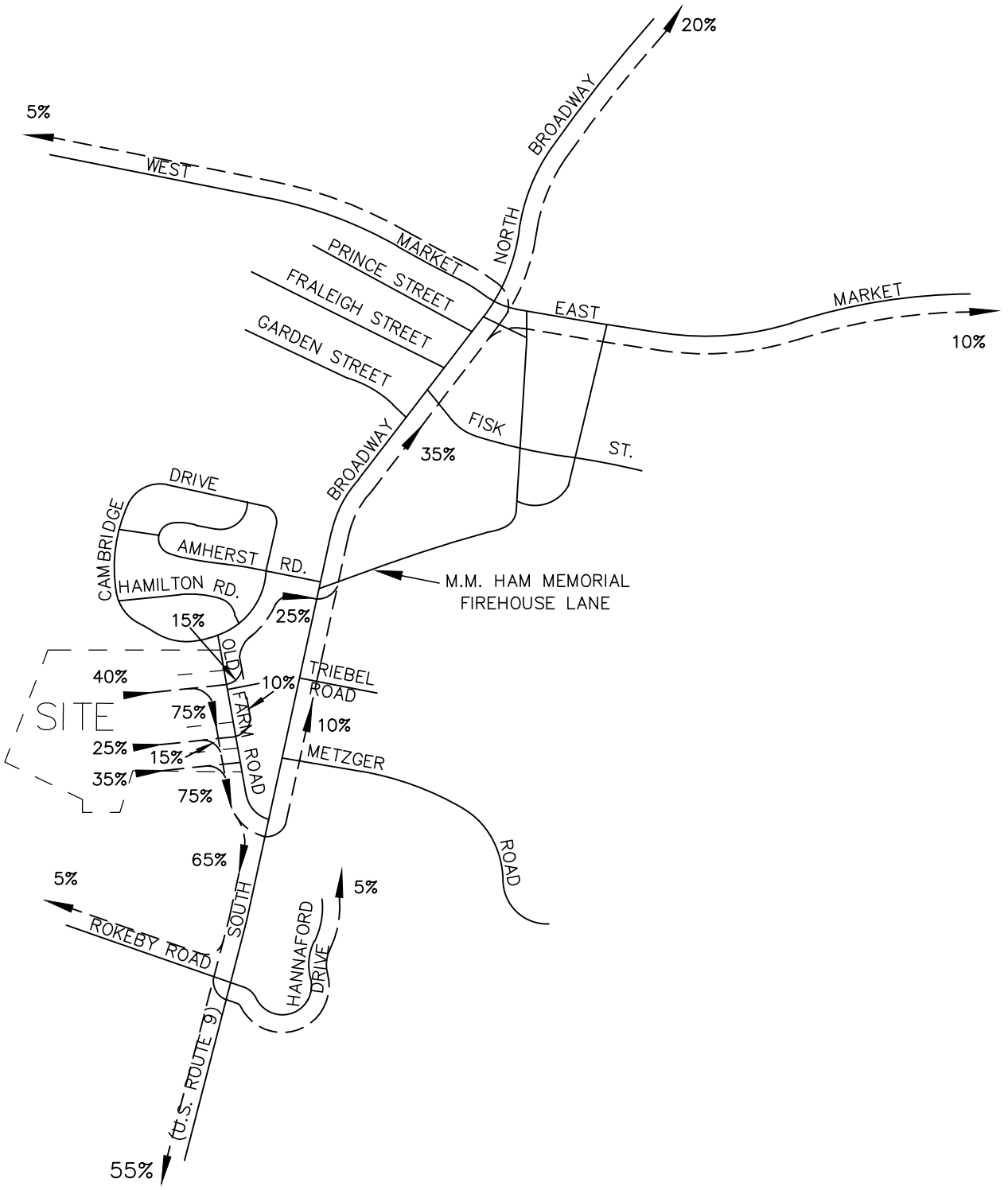
FIGURE NUMBER:	
10	



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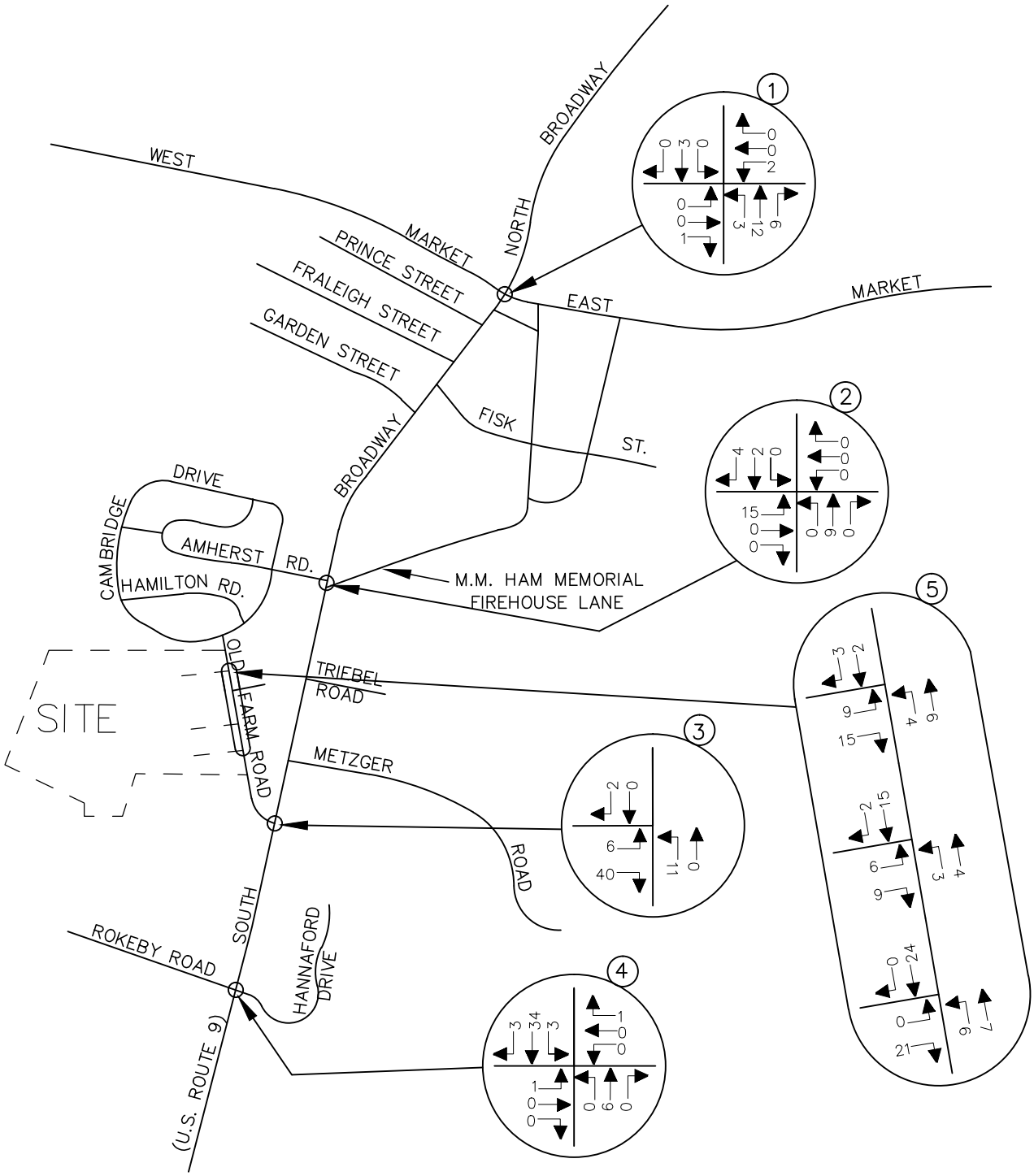
DEPARTURE DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
11	



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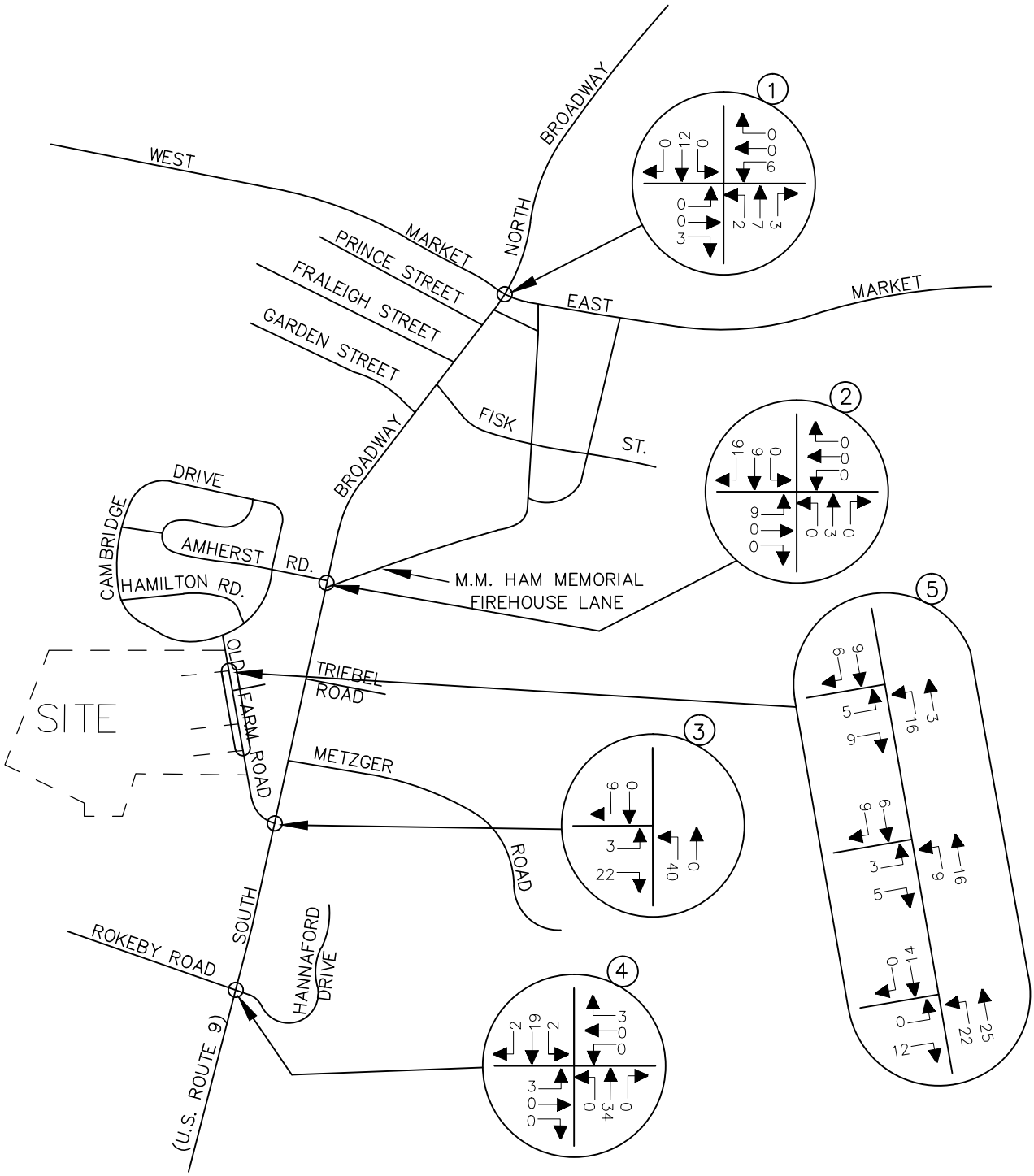
SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
12	



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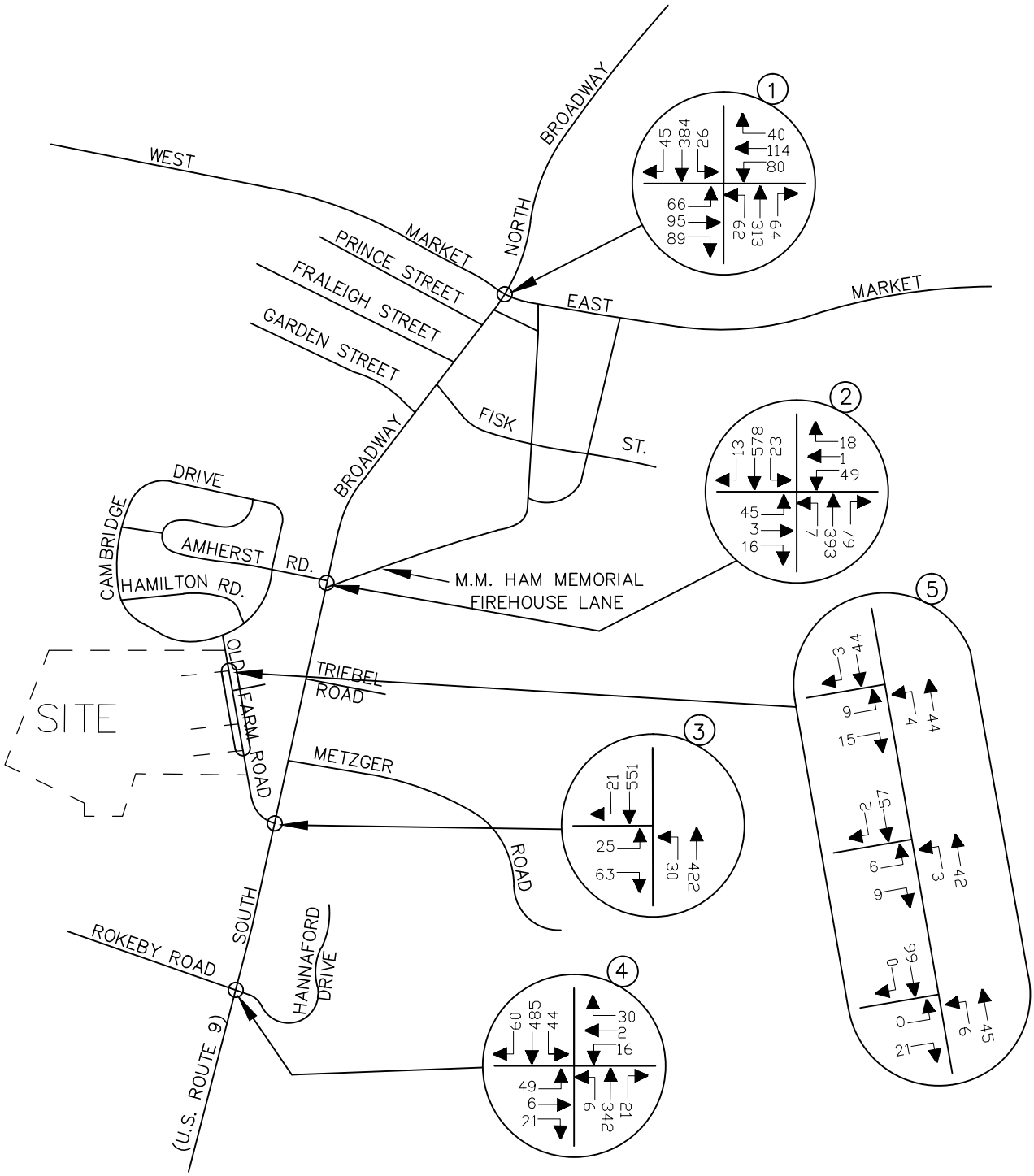
SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
13	



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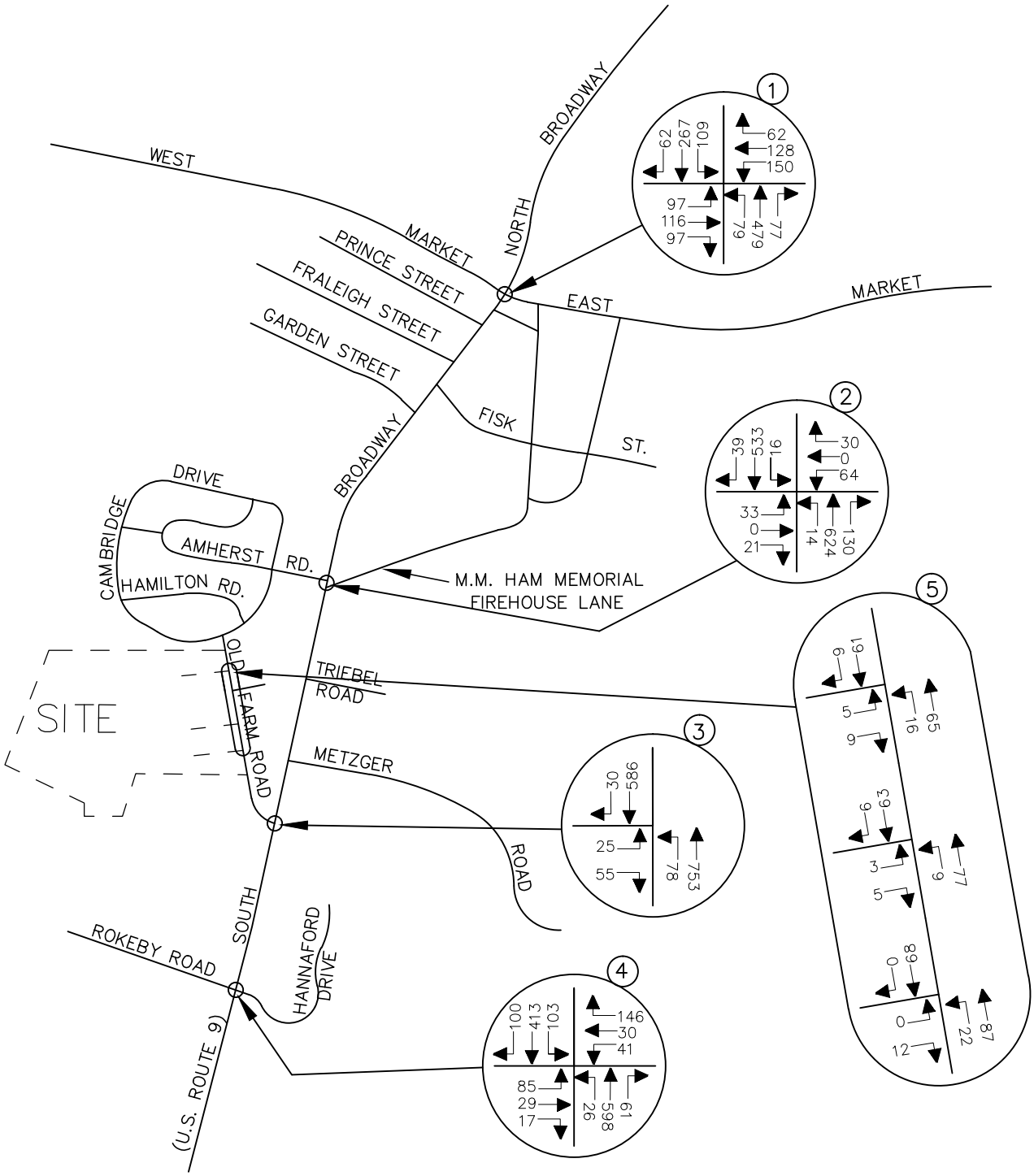
2017 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
14	



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2017 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
12100092A	6/23/14
FIGURE NUMBER:	
15	

10. DESCRIPTION OF ANALYSIS PROCEDURES

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The capacity software utilized in the traffic analysis is based on the 2010 Highway Capacity Manual and has been updated based on Synchro, as currently required by the New York State Department of Transportation. The following is a brief description of the analysis method utilized in this report:

- Signalized Intersection Capacity Analysis
  The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *2010 Highway Capacity Manual*, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis
  The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *2010 Highway Capacity Manual*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

11. RESULTS OF ANALYSIS (Table No. 2)

A capacity analysis was conducted at each of the intersections during each of the peak periods utilizing Synchro Version 8 analysis software and the procedures described above. A description of each of the intersections including traffic control and pedestrian activity is reflected in the narrative below. Note that the capacity analysis use the actual peak hour factors when analyzing the operations. The results of the analysis are summarized in Table No. 2 for the existing and future conditions.

U.S. Route 9 and NYS Route 199

U.S. Route 9 intersects with NYS Route 199 at a full movement signalized intersection. All approaches consist of one lane and parking is permitted on all approaches except near the corners. Pedestrian signals are present on all approaches and current pedestrian volumes were observed at moderate levels during peak hours. Saturday peak levels are moderate to high. Copies of the signal plans, timing and phasing information is contained in Appendix "B". This intersection currently handles a total of over 1500 vehicles during the peak hour and the proposed development can be expected to add between 20 and 30 peak hour vehicles through the intersection or the equivalent of a 1% to 2% increase.

The capacity analysis for this intersection indicates that the westbound approach will operate at a Level of Service "E" during the PM Peak Hour with the overall intersection operating at Levels of Service "D" or better in the future under the No-Build and Build conditions with small changes in average vehicle delays.

U.S. Route 9 and Old Farm Road

Old Farm Road intersects U.S. Route 9 at a "Stop" sign controlled "T" intersection. All approaches consist of a single lane. U.S. Route 9 is striped for a passing zone in the southbound direction. The capacity analysis indicates a Level of Service "C" and "D" respectively are expected for traffic exiting Old Farm Road during the AM and PM Peak Hours under No-Build and Build conditions. The observed pedestrian activity at this location was observed to be low. While this could increase in the future as a result of the development, the levels would still be low to moderate.

U.S. Route 9 and Hannaford Drive/Rokeby Road

The Hannaford Drive approach has a separate right turn lane and through/left lane. The signal number is D-230. Speed limit on U.S. Route 9 just south of Old Farm is 40mph. The northbound approach at Hannaford Drive has a separate left, a separate through and separate right turn lane. U.S. Route 9 southbound has a separate left turn lane and a

combination through/right. There are pedestrian crossings from the northeast corner to the northwest corner only. No sidewalks south of the intersection of either side of U.S. Route 9 or on the east side of U.S. Route 9. The signal phasing at Hannaford and Rokeby is a split phase east and west. South of Hannaford Drive, the speed limit increase to 55mph. The capacity analysis for this location indicates a Level of Service "D" or better during peak hours. Pedestrian activities during the field surveys were observed to be low.

U.S. Route 9 and Amherst Road/Firehouse Lane

Amherst Road is a "Stop" sign controlled intersection with U.S. Route 9. U.S. Route 9 has a double yellow centerline at that intersection. Sidewalks are on both sides of U.S. Route 9. The Dutchess Loop Bus turns left on Market Street heading northbound. Amherst Road is 30mph posted speed limit. No sidewalks on Amherst Road and no significant pedestrian activity were present at the time of the surveys. The westbound approach operates at a Level of Service "E" and "F" for the AM and PM Peak Hours, respectively, regardless of the Hoffman Development. It should be noted that along a state highway such as U.S. Route 9, it is not unusual for the side road to experience these levels. Traffic exiting and turning left from Firehouse Lane will experience long peak hour delays with or without the proposed development. Pedestrian activity at this location was observed to be low and is expected to remain low in the future.

Amherst Road and Cambridge Road

Amherst Road has an "All Way Stop" controlled intersection with Cambridge Drive, it's a four-way all way stop. Cambridge Drive also has 30mph posted speed limit. Local pedestrian traffic was observed to be low. Based on the expected arrival and departure distributions, the proposed development is expected to add between 18 and 20 vehicles to this intersection during peak hours. Based on the capacity of an "All Way Stop" controlled intersection, the volumes can be expected to be processed at good Levels of Service.

Old Farm Road and Proposed Site Access Roads

Three points of access connecting to Old Farm Road are proposed. These intersections should be "Stop" sign controlled and should consist of one entering and one exiting lane. The capacity analysis for these locations indicates a Level of Service "A" during peak hours. Current pedestrian activity was observed to be low in this vicinity and can be expected to increase with the proposed development but should remain at low to moderate levels. As identified below, sidewalks are proposed to be constructed by the Applicant along the site frontage on the west side of Old Farm Road.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

			2012 EXISTING		2017 NO-BUILD		2017 BUILD	
			AM	PM	AM	PM	AM	PM
1	U.S. ROUTE 9 &	**SIGNALIZED**						
	EAST/WEST MARKET	EB	B[18.4]	C[29.6]	C[21.4]	D[39.0]	C[23.5]	D[40.0]
		WB	B[18.4]	D[36.0]	C[22.1]	E[56.9]	C[24.5]	E[62.7]
		NB	B[17.3]	C[32.1]	C[20.4]	D[35.7]	C[21.3]	D[37.6]
		SB	B[17.9]	C[28.0]	C[20.1]	C[31.4]	C[21.0]	C[32.9]
		OVERALL	B[17.9]	C[31.4]	C[20.8]	D[39.4]	C[22.1]	D[41.8]
2	U.S. ROUTE 9 &	**UNSIGNALIZED**						
	M.M. HAM MEMORIAL	EB	C[23.6]	D[25.7]	D[29.7]	D[33.5]	E[37.0]	E[42.2]
	FIREHOUSE LANE/AMHERST ROAD	WB	D[25.1]	E[38.5]	E[36.5]	F[69.2]	E[37.3]	F[73.3]
		NB	A[8.7]	A[8.5]	A[8.9]	A[8.7]	A[8.9]	A[8.8]
		SB	A[8.4]	A[9.1]	A[8.6]	A[9.5]	A[8.6]	A[9.5]
3	U.S. ROUTE 9 &	**UNSIGNALIZED**						
	OLD FARM ROAD	EB	C[15.7]	C[20.8]	C[18.1]	D[26.0]	C[18.6]	D[30.3]
		NB	A[8.6]	A[8.7]	A[8.8]	A[9.0]	A[8.9]	A[9.2]
4	U.S. ROUTE 9 &	**SIGNALIZED**						
	HANNAFORD DRIVE/ROKEBY ROAD	EB	C[26.4]	D[36.8]	C[26.5]	D[37.0]	C[26.2]	D[37.8]
		WB	B[11.7]	B[16.1]	B[11.7]	B[16.1]	B[11.5]	B[16.0]
		NB	A[9.2]	C[22.1]	B[10.0]	C[29.6]	B[10.9]	C[33.4]
		SB	A[5.5]	B[10.7]	A[6.1]	B[12.3]	A[6.4]	B[12.8]
		OVERALL	A[8.7]	B[18.3]	A[9.2]	C[22.0]	A[9.6]	C[23.8]
5A	OLD FARM ROAD &	**UNSIGNALIZED**						
	SITE ACCESS (NORTH) DRIVEWAY	EB	-	-	-	-	A[8.9]	A[9.1]
		NB	-	-	-	-	A[7.4]	A[7.4]
5B	OLD FARM ROAD &	**UNSIGNALIZED**						
	SITE ACCESS (CENTER) DRIVEWAY	EB	-	-	-	-	A[8.9]	A[9.0]
		NB	-	-	-	-	A[7.4]	A[7.4]
5C	OLD FARM ROAD &	**UNSIGNALIZED**						
	SITE ACCESS (SOUTH) DRIVEWAY	EB	-	-	-	-	A[8.7]	A[8.7]
		NB	-	-	-	-	A[7.4]	A]7.4]

NOTES:

1) THE ABOVE REPRESENT THE LEVELS OF SERVICE AND AVERAGE VEHICLE DELAYS IN SECONDS, C [16.2], FOR EACH KEY APPROACH FOR THE UNSIGNALIZED INTERSECTION AS WELL AS FOR THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

12. SUMMARY OF RESULTS AND RECOMMENDATIONS

The following is a summary of the findings relative to the proposed development.

a. The additional traffic generated by the proposed development (Build conditions) will not significantly change the levels of service at the area intersections when compared to the No-Build conditions.

b. The access connections to Old Farm Road will be via three access roadways, which will be connected internally. To ensure adequate sight distances for exiting and entering vehicles, the existing trees will be removed as part of the development. The provision of a sidewalk on the west side of Old Farm Road for the entire site frontage is proposed and will be completed by the Project Applicant and coordinated with the Town.

c. The installation of a new double yellow centerline pavement marking on Old Farm Road should be completed by the Project Applicant in coordination with the Town.

d. The construction impacts on U.S. Route 9 are expected to be minimal. Traffic from construction workers is expected to be spread out and deliveries of materials to and from the site including construction equipment on site will be spaced out over time and is not expected to result in any significant impact on the local roadway system. A schedule of construction and any maintenance and protection of traffic plans (MPT) will be provided as necessary prior to construction.

e. The potential for additional development on the east side of U.S. Route 9 (formerly Hardscrabble Commons) is something that would be addressed as part of a study for that development. In any event, if that development proceeds and a four-way intersection results, there may be a potential for future signal installation especially depending on the density of that future project.

f. It is expected that there will be some on-street parking along the roadways internal to the proposed development as well as along the site frontage of Old Farm Road. It is not expect that this on-street parking will impact the operation of these roadways, however, parking should be restricted in the immediate vicinity of the site access driveways to ensure that adequate sight distance is provided.

13. SUMMARY AND CONCLUSION

Based on the analysis contained herein together with the review of field conditions, it is the professional opinion of Maser Consulting, P.A. that the proposed development will not result in a significant negative impact on traffic conditions in the area.

HOFFMAN PROPERTY RESIDENTIAL DEVELOPMENT

APPENDIX A

DUTCHESS COUNTY LOOP BUS SCHEDULE

Services

Fixed Route service is open to the public and has scheduled flag stops along these major roadways in Dutchess County:

- Route 9 from Tivoli to Poughkeepsie and Poughkeepsie to Fishkill
- Route 9 & 9D from Poughkeepsie to Beacon
- Route 44 between Poughkeepsie and Dover Plains
- Route 55 between Poughkeepsie and Pawling
- Route 52 from Beacon to Hopewell Junction

RailLink (formerly CTC) service to the Metro-North train stations in Poughkeepsie, New Hamburg and Beacon. Schedules are available at the Dutchess County Bus Facility, at the train stations, Grand Central Terminal in New York City and by mail.

ADA Complementary Paratransit Service is a curb to curb accessible bus service for individuals traveling within ¾ of a mile from the normal route of the LOOP's fixed route service whose disability prohibits access to the fixed route system.

Flex Service is a demand responsive service that operates outside the ¾ mile ADA-required zones. It is above and beyond fixed route and ADA Complementary Paratransit service. This service provides curb to curb service in areas with little or no fixed route service for the general public with no preference given to any group. Registration is required to use this service and reservations must be made 3-30 days prior to the trip.

Dial-A-Ride is a municipal-sponsored curb-to-curb service open to the public. It is above and beyond fixed route and ADA Complementary Paratransit service. Registration is required to use this service and reservations must be made 3-30 days prior to the trip.

LOOP Holiday Service Schedule

Memorial Day, Monday, May 28, 2012: LOOP will NOT operate.

Independence Day, Wednesday, July 4, 2012: LOOP will NOT operate.

Labor Day, Monday, September 3, 2012: LOOP will NOT operate.

Veteran's Day, Observed, Monday, November 12, 2012: LOOP will operate a Saturday schedule. There will be no RailLink, Dial-A-Ride, or Flex service.

Thanksgiving, Thursday, November 22, 2012: LOOP will NOT operate.

Day after Thanksgiving, Friday, November 23, 2012: LOOP will operate a Saturday schedule. There will be no RailLink, Dial-A-Ride, or Flex service.

Christmas Day, Tuesday, December 25, 2012: LOOP will NOT operate.

New Year's Day, Tuesday, January 1, 2013: LOOP will NOT operate.

Martin Luther King, Jr. Day, Monday, January 21, 2013: LOOP will NOT operate.

www. dutchessny.gov/LOOP.htm
845-473-0171

Marcus J. Molinaro
County Executive

Kealy Salomon
Commissioner of Planning and Development

ROUTE C

Monday through Saturday

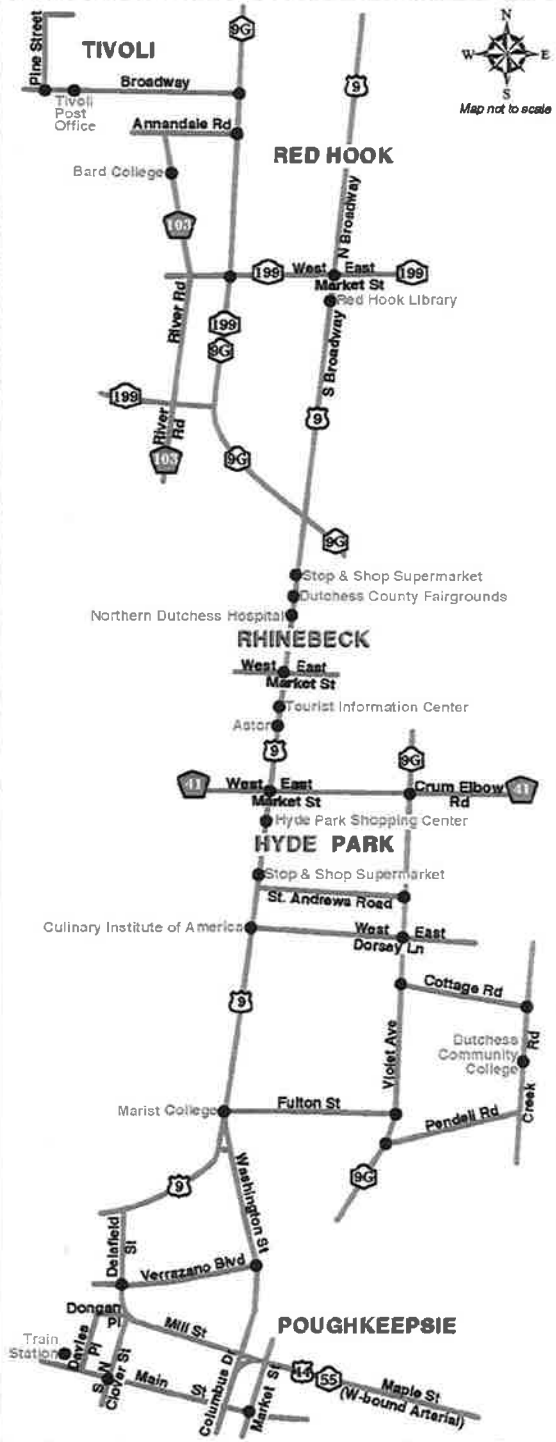
Poughkeepsie, DCC, Hyde Park, Rhinebeck, Red Hook and Tivoli

Dutchess County LOOP Bus System

Effective October 6, 2012

Dutchess County Government Cares.

Service, Support and Information
www.dutchessny.gov



Fares

- Exact fare is required, Drivers cannot make change.
- All cash passengers must pay the full fare.
- Fares are deposited in the fare box.

FARE CATEGORY	
Fixed Routes (LOOP and Rail Link)	**One Way Fare Per Bus**
Standard Fare	$1.75
Senior, Veteran, Medicare Card Holder and/or ADA Card Holder	$0.75
Child (5 to 12 years of age) or Student (with current valid school I. D.)	$0.75
Child (under 5 years of age)	Free
Curb to Curb Services	**One Way Fare Per Bus**
ADA Complementary Paratransit Service	$3.50
Flex - One Town	$5.00
Flex - More than One Town	$6.00
Dial-A-Ride	$3.50
Dial-A-Ride - Senior and Veteran	$1.00
Multi-Ride Passes	**Per Month**
Monthly Commuter Pass	$45.00 per month
Monthly Ride-Anytime	$62.00 per month

ADA Card enables patrons with a disability to pay $0.75 for a single one way ride on the fixed routes only. This fare reduction is valid at all times and on all buses in the fixed route LOOP bus system. This discounted fare cannot be used in conjunction with any other fare reduction. To apply for an ADA Card, complete the ADA application online. Documentation from your doctor will be required. Applicants for ADA Cards will be issued the card within a week of Dutchess County Mass Transit receiving the doctor's verification. The ADA Card is available free of charge.

Monthly Commuter Pass is designed for those individuals who commute back and forth during normal commuter hours. The Pass is valid from 4 a.m. to 9 a.m. and again 3 p.m. to 7 p.m., Monday through Friday. This pass is good on all buses in the LOOP bus system during the restricted days and hours.

Monthly Ride Anytime Pass is valid on all fixed route buses and at all times during the calendar month of issue. An easy way to determine if this is the right pass for you is to count the number of times you normally ride the LOOP bus in any calendar month. If you ride more than 36 times during the month, this is the pass for you. Remember, every time you change buses counts as one ride.

Tickets and Passes may be purchased either at the LOOP bus facility or through the U.S. Mail. LOOP accepts cash, check or money orders only. Gift passes are available for all modes of service.

The address of the LOOP bus facility is:
Dutchess County LOOP Bus System
14 Commerce Street
Poughkeepsie, NY 12603
Business Hours: Mon. - Fri .8 a.m. - 5 p.m.

Safety / Ridership

- Stand at a bus stop sign, in a bus stop shelter, or in a location where the bus can stop safely.
- Buses will stop along the route if there isn't a bus stop close by.
- Hail the bus with a clear hand signal.
- Tell the driver your destination when you aboard the bus.
- Tell the driver if you need an off-route pick up on your return trip.
- Take a seat if one is available.
- Each passenger may carry up to 4 packages. Packages must be stored under the seat.
- Standees must remain behind the white or yellow line.
- The aisle must be kept clear at all times.
- Please refrain from talking to the driver except to remind to stop.
- All passengers riding in wheelchairs must allow the driver to secure the chair per the manufacturer's securement recommendations.
- Smoking, food, beverages, radios, pets, cellular phone use and disruptive behavior are prohibited.

Route C Southbound Monday - Saturday

Tivoli • Red Hook • Rhinebeck
Hyde Park • DCC • Poughkeepsie

106: TIVOLI - Post Office	6:45	7:15	9:46	Monday - Friday Only	Saturday Only	11:30		Monday - Friday Only	Saturday Only	Monday - Friday Only	3:30	6:35	7:00		10:01
100: TIVOLI - Route 9G & Broadway	6:48	7:18	9:49			11:33					3:33	6:38	7:03		10:03
99: RED HOOK - Route 9G & CR 103 (Annandale Road)	6:51	7:21	9:52			11:36					3:36	6:41	7:06		10:06
98: RED HOOK - Bard College	6:54	7:24	9:55			11:39					3:39	6:44	7:09		10:09
139: RED HOOK - Route 9G & River Road	6:55	7:25	9:56			11:40					3:40	6:45	7:10		10:10
97: RED HOOK - Route 199 & Route 9G	6:59	7:29	10:00			11:44					3:44	6:49	7:14		10:14
96: RED HOOK - Route 9 & Route 199	7:04	7:34	10:05			11:49				3:18	3:49	6:54	7:19		10:19
137: RHINEBECK - Stop & Shop	7:06	7:36	10:07			11:51				-----	3:51	6:56	7:21		10:21
136: RHINEBECK - Dutchess County Fairgrounds	7:08	7:38	10:09			11:53				-----	3:53	6:58	7:23		10:23
138: RHINEBECK - Northern Dutchess Hospital	7:10	7:40	10:11			11:55				-----	3:55	7:00	7:25		10:25
159: RHINEBECK - Route 9 & Market Street	7:12	7:42	10:13			11:57				-----	3:57	7:02	7:27		10:27
140: RHINEBECK - Astor	7:14	7:44	10:15			11:59				-----	3:59	7:04	7:29		10:29
156: STAATSBURG - Route 9 & Old Post Road Mills Mansion	7:16	7:46	10:17			12:01				-----	4:01	7:06	7:31		10:31
157: STAATSBURG - Anderson Center for Autism	7:18	7:48	10:19			12:03				-----	4:03	7:08	7:33		10:33
143: HYDE PARK - Route 9 & West Market Street	7:20	7:50	10:21	11:45	11:55	12:05	1:55			-----	4:05	7:10	7:35		10:35
144: HYDE PARK - Route 9 & Crumwold Place	7:22	7:52	10:23	11:47	11:57	12:07	1:57			-----	4:07	7:12	7:37		10:37
95: HYDE PARK - Stop & Shop	7:26	7:56	10:27	11:50	12:01	12:11	2:00			-----	4:11	7:16	7:41		10:41
94: HYDE PARK - West Dorsey Lane & Route 9 (CIA)	7:28	7:58	10:29	11:52	12:03	12:13	2:02			-----	4:13	7:18	7:43	8:39	10:43
93: HYDE PARK - Route 9G (Violet Avenue) & West Dorsey Lane	-----	-----	10:32	-----	-----	12:16				-----	4:16	7:21	-----	-----	10:46
92: POUGHKEEPSIE - Cottage Road & Route 9G (Violet Avenue)	-----	-----	10:35	-----	-----	12:19				-----	4:19	7:24	-----	-----	10:49
91: POUGHKEEPSIE - Creek Road & Cottage Road	-----	-----	10:38	-----	-----	12:22				-----	4:22	7:27	-----	-----	10:52
90: POUGHKEEPSIE - Creek Road & DCC	-----	-----	10:41	-----	-----	12:25		2:18	2:16	-----	4:25	7:30	-----	-----	10:55
133: POUGHKEEPSIE - Hudson Valley Market Place **Saturday Only**				-----					2:21						
89: POUGHKEEPSIE - Violet Avenue & Pendell Road	-----	-----	10:44	-----	-----	12:28		2:19	2:26	-----	4:28	7:33	-----	-----	10:58
88: POUGHKEEPSIE - Fulton Street & Route 9G Violet Ave	-----	-----	10:47	-----	-----	12:31		2:21	2:28	-----	4:31	7:36	-----	-----	11:01
87: POUGHKEEPSIE - Route 9 & Fulton Street (Marist)	7:31	8:01	10:50	11:55	12:06	12:34	2:05	2:24	2:31	-----	4:34	7:39	7:49	8:43	11:04
86: POUGHKEEPSIE - Verrazano Boulevard & Washington St	7:34	8:04	10:53	11:58	12:09	12:37	2:08	2:27	2:34	-----	4:37	7:42	7:52	8:45	11:07
10: POUGHKEEPSIE - Train Station	7:36	8:06	10:55	12:01	12:12	12:40	2:11	2:30	2:37	-----	4:40	7:45	7:55	8:47	11:10
6: POUGHKEEPSIE - Main & Market	7:38	8:08	10:58	12:04	12:15	12:43	2:14	2:36	2:43	4:00	4:43	7:48	7:58	8:50	11:13

Read Schedule Down (Light #s = a.m. / **Bold #s = p.m.**) * On Demand Service call (845) 473-0171 for pick-up C = Connecting Service E = Express

Route C Northbound Monday - Saturday

Poughkeepsie • DCC • Hyde Park
Rhinebeck • Red Hook • Tivoli

6: POUGHKEEPSIE - Main & Market	5:35	6:05	7:30	8:30	9:15	11:00	11:00	1:15	1:40	2:00	4:45	5:15	8:15	8:45
10: POUGHKEEPSIE - Poughkeepsie Train Station	5:40	6:10	7:35	8:35	9:20	11:05	11:05	1:20	-----	2:05	4:50	5:20	8:20	8:50
147: POUGHKEEPSIE - Main Street & North Clover Street	5:40	6:10	7:35	8:35	9:20	11:05	11:05	1:20	-----	2:05	4:50	5:20	8:20	8:50
85: POUGHKEEPSIE - Mill Street & Verrazano Boulevard	5:41	6:11	7:36	8:36	9:21	11:06	11:06	1:21	-----	2:06	4:51	5:21	8:21	8:51
86: POUGHKEEPSIE - Verrazano Boulevard & Washington St	5:43	6:13	7:38	8:38	9:23	11:08	11:08	1:23	-----	2:08	4:53	5:23	8:23	8:53
87: POUGHKEEPSIE - Route 9 & Fulton Street (Marist)	5:45	6:15	7:40	8:40	9:25	11:10	11:10	1:25	-----	2:10	4:55	5:25	8:25	8:55
88: POUGHKEEPSIE - Fulton Street & Route 9G Violet Ave	-----	-----	-----	8:42	9:27	11:12	11:12	1:27	-----	2:21	-----	5:27	8:27	8:57
89: POUGHKEEPSIE - Violet Avenue & Pendell Road	-----	-----	-----	8:44	9:29	11:14	11:14	1:29	-----	2:14	-----	5:29	8:29	8:59
133: POUGHKEEPSIE - Hudson Valley Market Place **Saturday Only**							11:22							
90: POUGHKEEPSIE - Creek Road & DCC	-----	-----	-----	8:46	9:31	11:16	11:30	1:31	-----	2:16	-----	5:31	8:31	9:01
91: POUGHKEEPSIE - Creek Road & Cottage Road	-----	-----	-----	8:48	9:33	11:18	11:32	1:33	-----	2:18	-----	5:33	8:33	9:03
92: POUGHKEEPSIE - Cottage Road & Route 9G Violet Ave	-----	-----	-----	8:50	9:35	11:20	11:34	1:35	-----	2:20	-----	5:35	8:35	9:05
93: HYDE PARK - Route 9G (Violet Ave) & W Dorsey Lane	-----	-----	-----	8:52	9:37	11:22	11:36	1:37	-----	2:22	-----	5:37	8:37	9:07
94: HYDE PARK - West Dorsey Lane & Route 9 (CIA)	5:47	6:17	7:42	8:54	9:39	11:24	11:39	1:40	-----	2:24	4:57	5:39	8:39	9:09
95: HYDE PARK - Stop & Shop Supermarket	5:50	6:20	7:45	8:57	9:42	11:27	11:42	1:43	-----	2:27	5:00	5:42		9:12
166: HYDE PARK - St Andrews Rd	-----	-----	-----	-----	-----	11:29	11:43	1:44	-----	-----	-----	-----		-----
167: HYDE PARK - St Andrews Rd & Route 9G (Violet Ave)	-----	-----	-----	-----	-----	11:31	11:45	1:46	-----	-----	-----	-----		-----
168: HYDE PARK - Route 9G & East Market Street	-----	-----	-----	-----	-----	11:36	11:50	1:51	-----	-----	-----	-----		-----
134: HYDE PARK - East Market St and Route 9	-----	-----	-----	-----	-----	11:40	11:54	1:55	-----	-----	-----	-----		-----
9: HYDE PARK - Hyde Park Shopping Center	5:54	6:24	7:49	9:01	9:46		Saturday Only		-----	2:31	5:04	5:46		9:16
134: HYDE PARK - Route 9 & East Market Street	5:56	6:26	7:51	9:02	9:48				-----	2:33	5:06	5:48		9:18
148: RHINEBECK - Route 9 & Tourist Information Center	6:11	6:41	8:06	9:15	10:03				-----	2:48	5:21	6:03		9:33
136: RHINEBECK - Dutchess County Fairgrounds	6:14	6:44	8:09	9:18	10:06				-----	2:51	5:24	6:06		9:36
137: RHINEBECK - Stop & Shop	6:16	6:46	8:11	9:20	10:08				-----	2:53	5:26	6:08		9:38
96: RHINEBECK - Route 9 & Route 9G	6:18	6:48	8:13	9:22	10:10				2:22	2:55	5:28	6:10		9:40
152: RED HOOK - Red Hook Public Library	6:23	6:53	Monday - Friday Only	9:27	10:15				Monday - Friday Only	3:00	5:33	6:15		9:45
97: RED HOOK - Route 199 & Route 9G	6:27	6:57		9:31	10:19					3:04	5:37	6:19		9:49
139: RED HOOK - Route 9G & River Road	*	-----		9:35	10:23					3:08	*	*		-----
98: RED HOOK - Bard College (Route 9G & Entrance Road)	*	-----		9:36	10:24					3:09	*	*		-----
99: RED HOOK - Route 9G & CR 103 (Annandale Road)	6:33	7:03		9:38	10:26					3:11	5:43	6:25		9:54
100: RED HOOK - Route 9G & Broadway	6:36	7:06		9:41	10:29					3:14	5:46	6:28		9:57
101: TIVOLI - Pine Street & Broadway	6:39	7:09		9:43	10:32					3:17	5:49	6:31		9:59
106: TIVOLI - Tivoli Post Office	6:42	7:12		9:46	10:35					3:21	5:52	6:34		10:01

Read Schedule Down (Light #s = am / **Bold #s = pm**) * On Demand Service call (845) 473-0171 for pick-up C = Connecting Service E = Express

HOFFMAN PROPERTY RESIDENTIAL DEVELOPMENT

APPENDIX B

NYSDOT REFERENCE DATA

County Order	End Mile Point	Count LOC Reference Marker	Section Length	Section End Description	LATEST COUNT EST AADT	YR	PREVIOUS COUNTS EST AADT	YR	EST AADT	YR	EST AADT	YR	Count Station Number	YR
		Route	US9	County 027 DUTCHESS	Region	08								
5	31.96	9 82053094	06.06	RT 308 RHINEBECK	8570	11	14400	08	9470	02	9430	99	0037	
5	34.31	9 82053155	02.35	RT 9G	11630	11	10910	08	11870	05	11890	02	0077	
5	37.26	9 82053178	02.95	RT 199 RED HOOK	10000	11	9950	08	12450	03	11000	02	0075	
5	42.09	9 82053208	04.83	COLUMBIA CO LN	8850	11	7460	08	8000	05	8440	02	0812	
		Route	US9	County 021 COLUMBIA	Region	08								
6	09.90	9 82053256	09.90	RT 9H & 82 START 23 OLAP	3240	**	3190	08	3800	05	3140	02	0184	
6	12.58	9 81061100	02.68	END 23 OLAP BUCKLY COR	5070	**	5030	08	5360	05	4900	02	0078	
6	15.53	9 81061127	02.95	RT 9G START 23B OLAP	7810	**	7810	09	8270	05	7550	02	0079	
6	16.04	9 81062006	00.51	END 23B OLAP	8190	11	8010	08	11010	05	9750	02	0081	
6	17.35	9 81062011	01.31	LIVINGSTON PKY	15820	**	15820	10	15190	09	15500	05	0082	
6	18.93	9 81063012	01.58	CR 57 STOTTVILLE	9350	**	9350	09	9630	05	9090	02	0083	
6	22.16	9 81063028	03.23	RT 9J	5760	**	5760	10	5860	09	6250	05	0084	
6	26.00	9 81063060	03.84	CR 87 SUNNYSIDE	3820	11	3950	07	4550	04	4210	01	0085	
6	28.93	9 81063099	02.93	RT 9H VALATIE	5520	**	5510	09	7680	05	6430	01	0086	
6	29.61	9 81063128	00.68	RT 203 CONN VALATIE	6560	**	6580	10	6840	05	6050	01	0087	
6	30.72	9 81063135	01.11	RT 9H	11160	**	11190	10	9750	05	9230	02	0161	
6	34.12	9 81063146	03.40	RENSSELAER CO LN	12630	**	12510	09	13270	05	14100	00	0162	
		Route	US9	County 083 RENSSELAER	Region	01								
7	01.19	9 81063180	01.19	JCT RT 90I	18130	**	17940	09	14250	02	12900	99	0109	
7	05.54	9 14071012	04.35	START RT 20 OLAP	6390	**	6400	10	7530	07	8360	05	0413	
7	05.91	9 14071056	00.37	JCT RT 150	21600	**	21370	09	17250	05	16580	02	0106	
7	06.42	9 14071060	00.51	ACC RT 90I	20210	**	20090	07	19450	03	21530	00	0412	
7	07.77	9 14071065	01.35	RT 912F MILLER RD	17740	**	17690	09	12380	00	12820	97	0057	
7	08.75	9 14071078	00.98	CR 58 HAYES RD	14800	11	14170	08	14250	06	15460	04	0022	
7	09.60	9 14071088	00.85	RT 4 E GREENBUSH	15050	**	15030	10	16870	06	16180	01	0077	
7	11.55	9 14071097	01.95	CR 59 HAMPTON MANOR	27610	**	27530	09					0101	
7	12.32	9 14071116	00.77	RENSSELAER S CITY LN	16760	**	16740	10	18340	98			0097	
7	12.39	9 14071123	00.07	ROUTE 9J JUNCTION	27380	**	27300	09	18130	00			0038	
7	12.97	9 14072002	00.58	BROADWAY JCT	25310	**	25200	08	24610	99			0061	
7	13.22	9 14072007	00.25	END RT 20 EB OLAP	22570	**	22530	10	24520	06	22360	97	0063	
7	13.65	9 14072009	00.43	ALBANY CO LN	35170	**	34980	07	35800	02	32420	98	0064	
		Route	US9	County 001 ALBANY	Region	01								
8	00.06	9 14072012	00.06	END RT 20 OLAP	36550	**	34980	07	35800	02	32420	98	0138	
8	00.38	9 11081002	00.32	ACC RT 787I NBOUND	17220	**	14880	97					0006	
8	01.19	9 11081004	00.81	BROADWAY	23310	**	21160	02					0075	
8	01.26		00.07	RT 32	7480	**	7410	09	9250	00	8240	97	0076	
8	01.89	9 11081013	00.63	RT 9W	7240	**	7070	06	7060	04	7150	01	0077	
8	02.00	9 11081019	00.11	HENRY JOHNSON BLVD	9220	**	9150	06	8670	04	8840	01	0087	
8	02.62	9 11081020	00.62	CONN TO 90I (NB & SB)	19680	11	25350	05	19870	02	18820	99	0101	

TE-28X

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING & SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATIONS

Study :
Contract :
PIN:
File :

D-230
SIGNAL NO(S)

Dutchess
COUNTY

INTERSECTION Route 9 @ Rokeby Road

☐ CITY ☐ VILLAGE ☒ TOWN OF Red Hook

Department Order filed _____ as Section _____ Subdivision _____

Prior specifications hereby superseded ☒ None ☐ _____

Purpose :

Install Traffic Signal by Permit #8-02-0633

These specifications will be effective upon the ☒ Installation ☐ Modification of the necessary traffic control device(s) required by and conforming to the State Manual of Uniform Traffic Control Devices

I. This Signal shall

A. Operate in accordance with the Table of Operations and / of Change intervals as shown on page(s) 2 as a :

- ☐ Pretimed Signal
- ☒ Semi-traffic actuated signal
- ☐ Full-traffic actuated signal
- ☐ Pedestrian actuated signal
- ☐ Other _____

B.

- ☒ Display vehicular indications
- ☐ Display pedestrian indications
- ☒ Be equipped with vehicle detectors
- ☐ Be equipped with Pedestrian pushbuttons

as shown in the ☒ schematic ☐ scaled drawing on page 3

Be equipped with ☐ pre-emption ☐ interconnection and / or coordination which are described as follows

cc: ( ) ☐ Main Office
(1) ☐ Region 8 Traffic Engineer
(2) ☐ _____
( ) ☐ _____

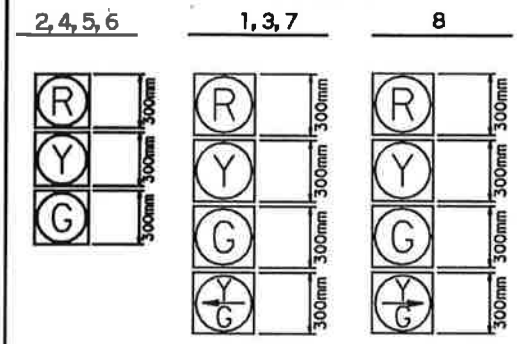
Date _____ Signature _____ RTE Title _____

Installation Date _____

Modification Date _____

HEAD FACES

SIGNAL D230
TOWN OF RED HOOK
DUTCHESS COUNTY
NOT TO SCALE



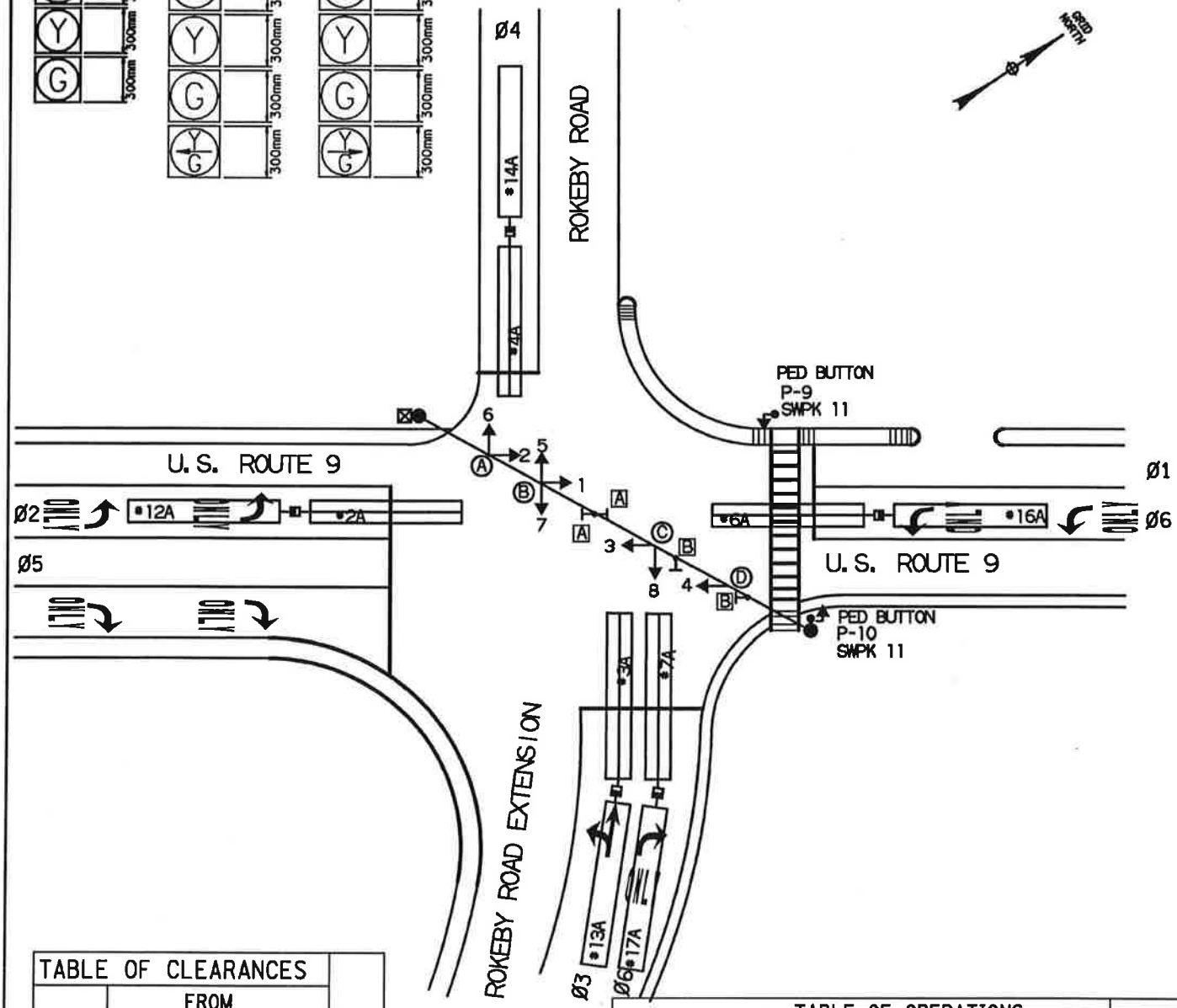


TABLE OF CLEARANCES					
TO	FROM				
	R	G	R/G	G/G	R/G
R	R/R	Y/R	R/Y / R	Y/Y / R	R/Y / R
G	R/R	G/G	R/Y / R	G/Y / G	R/G / R/G
R/G	R/R	X	R/G / R/G	X	X
G/G	R/R	G/G	R/G / R/G	G/G / G/G	X
R/G	R/R	Y/G / R/G	X	X	R/G / R/G

TABLE OF OPERATIONS										
PHASE	FACE									
	1	2	3	4	5	6	7	8	PED	PED
Ø1	G	G	R	R	R	R	R	R	DW	DW
Ø2	R	R	R/G	R	R	R	R	R	DW	DW
Ø4	R	R	R	R	G	G	R	R	DW	DW
Ø5	R	R	G	G	R	R	R	R	DW	DW
Ø6	R/G	R	R	R	R	R	R	R/G	DW	DW
Ø3	R	R	R	R	R	R	G/G	G	DW*	DW*
Ø1+Ø5	G	G	G	G	R	R	R	R	DW	DW
Ø2+Ø6	R/G	R	R/G	R	R	R	R	R/G	DW	DW
Ø1+Ø6	G/G	G	R	R	R	R	R	R/G	DW	DW
Ø2+Ø5	R	R	G/G	G	R	R	R	R	DW	DW
FLASHING OPERATION	FL. Y	FL. Y	FL. Y	FL. Y	FL. R	FL. R	FL. R	FL. R	DARK	DARK

CCS = 82A Signal # = 230 Rte = 9 Rte Seq # = 455
DATE: 07/10/03 TIME: 11:03:29
++

TE 261 (11/95) PHASE TIMING DATA/TIMER INTERVALS

INTERVAL	PHASE/ INT. #	F1	F2	F3	F4	F5	F6	F7	F8
MEMORY/RECALL	00	004	000	000	000	004	000	000	000
WALK	01	___	___	007	___	___	___	___	___
PEDESTRIAN CLEARANCE	02	___	___	014	___	___	___	___	___
INITIAL	03	010	005	005	005	010	005	___	___
VARIABLE INITIAL	04	__._	__._	__._	__._	__._	__._	__._	__._
VARIABLE INIT. LIMIT	05	050	050	050	050	050	050	050	050
TIME BEFOR REDUCTION	06	___	___	___	___	___	___	___	___
TIME TO REDUCE	07	___	___	___	___	___	___	___	___
MAXIMUM GAP	08	00.1	02.0	02.0	02.0	00.1	02.0	00.1	00.1
MINIMUM GAP	09	__._	__._	__._	__._	__._	__._	__._	__._
GAP CLOCK	10	USED	WITH	DAA	ONLY	USED	WITH	DBB	ONLY
MAXIMUM GREEN 1	11	040	015	025	025	040	015	___	___
MAXIMUM GREEN 2	12	___	___	___	___	___	___	___	___
MAXIMUM GREEN 3	13	___	___	___	___	___	___	___	___
RECALL GREEN	14	040	010	017	017	040	010	___	___
YELLOW CLEARANCE	15	05.0	05.0	04.0	04.0	05.0	05.0	__._	__._
RED CLEARANCE	16	01.0	01.0	01.0	01.0	01.0	01.0	__._	__._
THIRD CLEARANCE	17	__._	__._	__._	__._	__._	__._	__._	__._
FOURTH CLEARANCE	18	__._	__._	__._	__._	__._	__._	__._	__._
		F1	F2	F3	F4	F5	F6	F7	F8

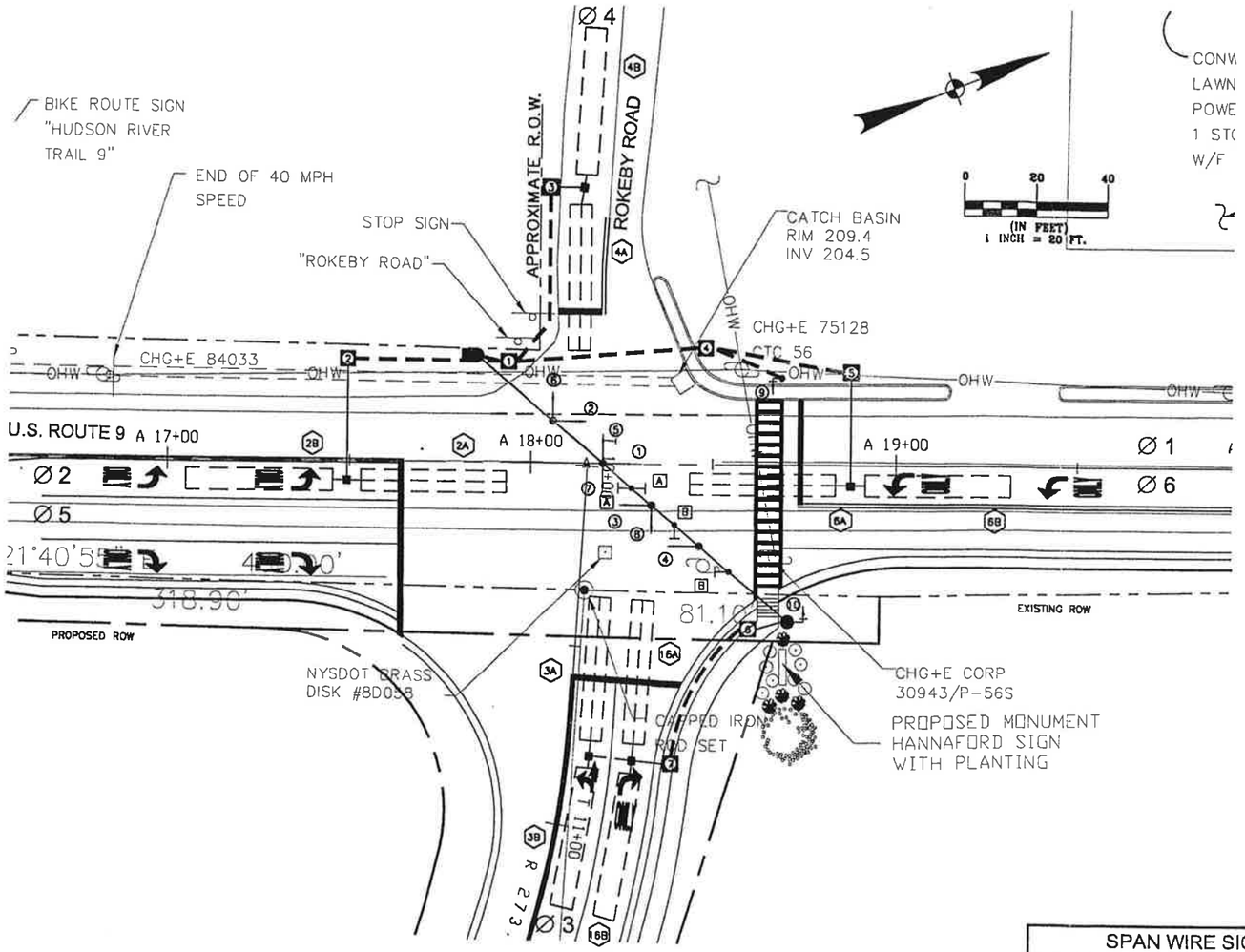


TABLE OF CLEARANCES

TO	FROM: R	FROM: G	FROM: R-G	FROM: G-G	FROM: R-G
R	R R	Y R	R-Y R-R	G-Y G-R	R-Y R-R
G	R R	G G	G-Y G-R	G-G G-G	R-G R-G
R-G	R R	X	R-G R-G	X	X
G-G	R R	G G	R-G R-G	G-G G-G	X
R-G	R R	R-G R-G	X	X	R-G R-G

TABLE OF OPERATIONS

PHASE	FACES 1	2	3	4	5	6	7	8	9	10
ø1	G	G	R	R	R	R	R	R	DW	DW
ø2	R	R	R-G-R	R	R	R	R	R-G-	DW	DW
ø4	R	R	R	R	G	G	R	R	DW	DW
ø5	R	R	G	G	R	R	R	R	DW	DW
ø6	R-G-R	R	R	R	R	R	R	R-G-	DW	DW
ø3	R	R	R	R	R	R	G	G	DW*	DW*
ø1 + ø5	G	G	G	G	R	R	R	R	DW	DW
ø2 + ø6	R-G-R	R	R-G-R	R	R	R	R	R-G-	DW	DW
ø3 + ø4	R	R	R	R	G	G	G	G	DW*	DW*
FLASHING OPERATION	FY	FY	FY	FY	FR	FR	FR	FR	DARK	DARK
DISPLAY										
ALL LENSES ON TRAFFIC SIGNALS SHALL BE 12" (300 mm) IN DIA.	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	HAND/ MAN	HAND/ MAN

* UPON ACTUATION OF A PEDESTRIAN PUSH BUTTON, THE INDICATION SHALL DISPLAY A STEADY "MAN" (WALK), FOLLOWED BY A FLASHING "HAND", AND THEN A STEADY "HAND" (DON'T WALK).

SPAN WIRE SIGNS TO BE INSTALLED

ITEM NUMBER	LOCATION	TEXT	SIZE	M.U.T.C.D. NUMBER	MOUNTING TYPE	QUANTITY
680.8204M	B	ONLY	30"x 36" (750 x 900 mm) 7.5 SF. (0.68 SQM)	R3-24	O.H.	2
680.8201M	A	ONLY	30"x 36" (750 x 900 mm) 7.5 SF. (0.68 SQM)	R3-22	O.H.	2

TABLE OF INDUCTANCE LOOP DESIGN

DETECTOR NUMBER	PHASE NUMBER	INDUCTANCE LOOP SIZE	NUMBER OF TURNS	JUNCTION BOXES	1 1/4 NPS CONDUIT	DUAL LOOP DET. MODULES
2A	ø2	6'x 40' (1.8x12 m)	2-4-2	1		1
2B	ø2	6'x 40' (1.8x12 m)	2			
3A	ø3	6'x 40' (1.8x12 m)	2-4-2	1		1
3B	ø3	6'x 40' (1.8x12 m)	2			
4A	ø4	6'x 40' (1.8x12 m)	2-4-2	1		1
4B	ø4	6'x 40' (1.8x12 m)	2			
6A	ø6	6'x 40' (1.8x12 m)	2-4-2	1		1
6B	ø6	6'x 40' (1.8x12 m)	2			
16A*	ø6	6'x 40' (1.8x12 m)	2-4-2	1		1
16B*	ø6	6'x 40' (1.8x12 m)	2			

* WITH 5-SECOND DELAY

MAP REFERENCE:

1.) BASEMAPPING PREPARED BY TECTONIC CONSULTING AND MODIFIED BY CREIGHTON MANNING ENGINEERING, LLP

MAP NOTES:

1.) NORTH ORIENTATION AND ELEVATIONS SHOWN HEREON ARE BASED ON DATA DEPICTED ON MAP REFERENCE NO. 1.

2.) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED FROM FIELD SURVEY AND PREVIOUS MAPS AND RECORDS. THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE UNKNOWN TO THE UNDERSIGNED. THE SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY EXCAVATION, SOIL TESTING AND CONSTRUCTION.

LEGEND

SYMBOL PROPOSED	SYMBOL EXISTING	DESCRIPTION
●	○	SIGNAL POLE
■	□	GROUND MOUNTED CONTROLLER
■	□	POLE MOUNTED CONTROLLER
——	- - - -	SPAN WIRE ASSEMBLY
═══	≡ ≡ ≡	CONDUIT
1	2	PULLBOX (TRAFFIC SIGNALS & NUMBER)
		TRAFFIC SIGNAL HEAD - 1 WAY
		TRAFFIC SIGNAL HEAD - 2 WAY
		TRAFFIC SIGNAL HEAD - 3 WAY
		TRAFFIC SIGNAL HEAD - 4 WAY
3		SIGNAL FACE & NUMBER
		INDUCTANCE LOOP
3A		DETECTOR NUMBER (MICROPROCESSOR ONLY)
ø		PHASE
		PED. SIGNAL HEAD PUSH BUTTON
		UTILITY POLE
		TRAFFIC SIGN

TRAFFIC SIGNAL PLAN

OFFSITE HIGHWAY IMPROVEMENTS TO U.S. ROUTE 9 TOWN OF RED HOOK, NEW YORK

CREIGHTON MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

MARTIN'S FOODS OF SOUTH BURLINGTON, INC.
P.O.BOX 1000
PORTLAND, ME 04104

NO.	REVISION	DATE	BY

JEFFREY W. PANGBURN, PE

PROGRESS PRINT NOT FOR CONSTRUCTION

LIC. NO. 076931

DESIGN:	K.L.F.
DRAWN:	A.J.C.
CHECKED:	J.W.P.
FILE:	99046TSP1.DWG
SCALE:	1" = 20'
SUBMISSION:	40%
DATE:	OCT. 26, 2001

PROJ. NO 99-046

TSP1

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING & SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATIONS

Study : ✓
Contract :
PIN:
File :

D-6
SIGNAL NO(S)

Dutchess
COUNTY

OFFICE ~~COPY~~

INTERSECTION Rt. 9 @ Rt. 199 HWP # 08020620

☐ CITY ☒ VILLAGE ☐ TOWN OF Red Hook

Department Order filed _____ as Section _____ Subdivision _____

Prior specifications hereby superseded ☐ None ☐ _____

Purpose:

Modify signal to include left turn arrows

These specifications will be effective upon the ☐ Installation ☒ Modification of the necessary traffic control device(s) reguired by and conforming to the State Manual of Uniform Traffic Control Devices

I. This Signal shall

A. Operate in accordance with the Table of Operations and / of Change intervals as shown on page(s) 2 as a :

- ☐ Pretimed Signal
- ☒ Semi-traffic actuated signal
- ☐ Full-traffic actuated signal
- ☒ Pedestrian actuated signal
- ☐ Other _____

B.

- ☑ Display vehicular indications
- ☑ Display pedestrian indications
- ☑ Be equipped with vehicle detectors
- ☑ Be equipped with Pedestrian pushbuttons

as shown in the ☒ schematic ☐ scaled drawing on page 3

Be equipped with ☐ pre-emption ☐ interconnection and / or coordination
which are described as follows

cc: ( ) ☐ Main Office
(1) ☐ Region 8 Traffic Engineer
(2) ☐ _____
( ) ☐ _____

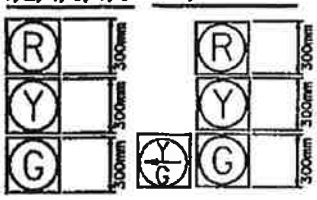
Date _____ Signature _____ RTE Title _____

Installation Date _____

Modification Date _____

HEAD FACES

1,2,4,5,6,8 3,7



SIGNAL D6
RTE 9 @ RTE 199
TOWN OF RED HOOK
DUTCHESS COUNTY
NOT TO SCALE

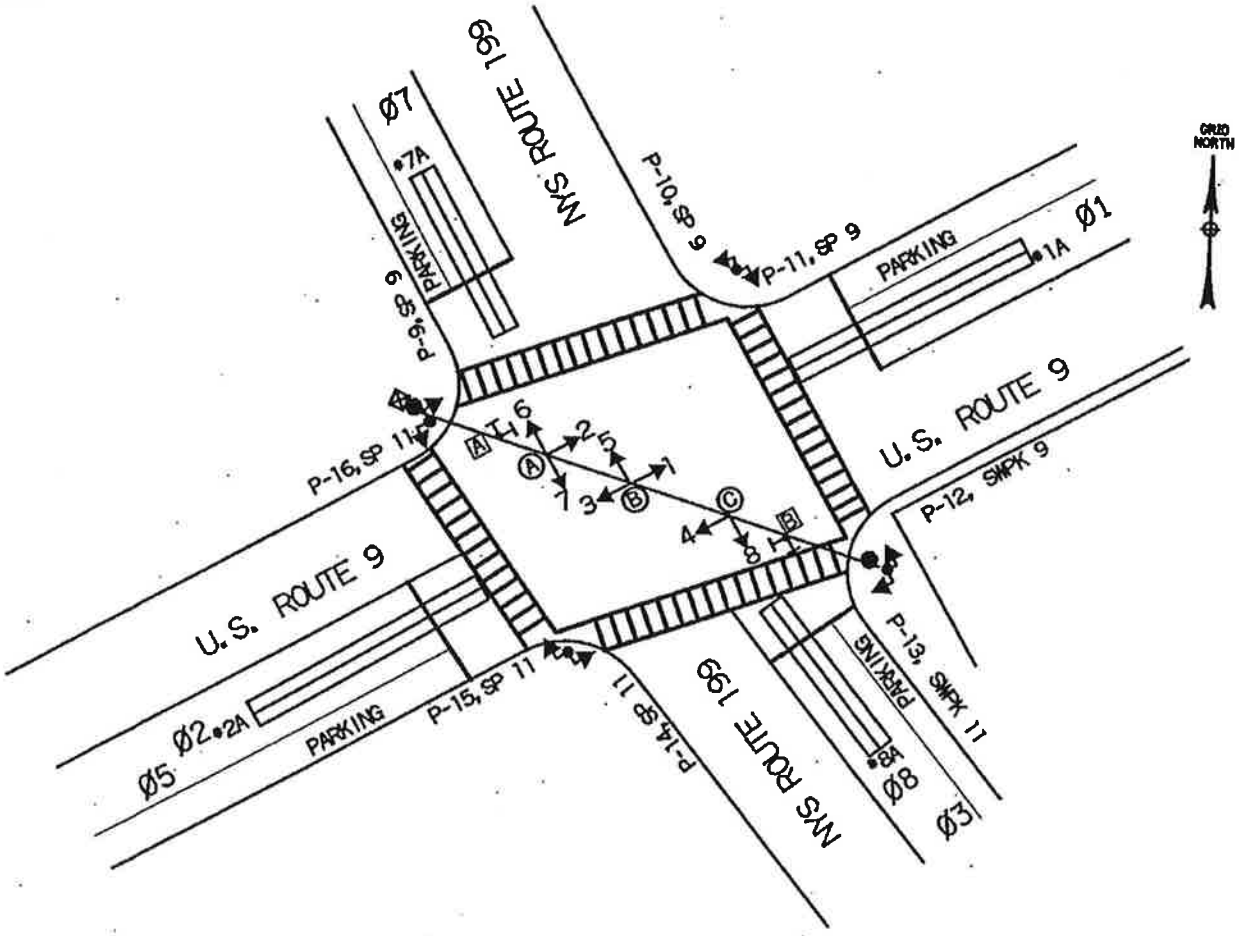


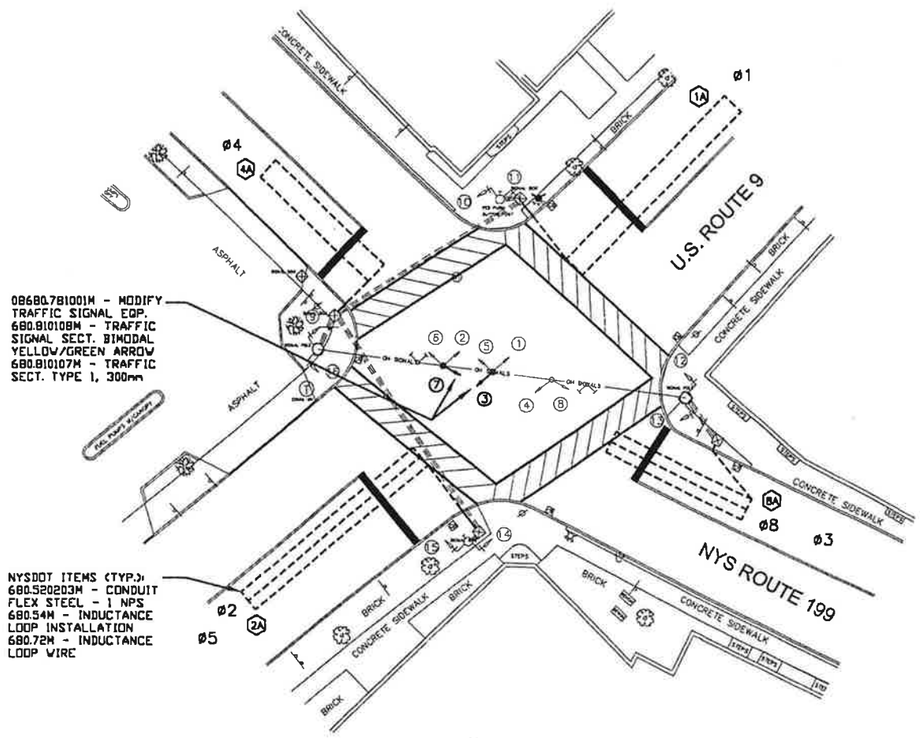
TABLE OF CLEARANCES			
TO	FROM		
	R	G	G/G
R	R	Y	Y/Y
	R	R	R
G	R	G	
	R	G	
G/G	R	G	
	R	G	

TABLE OF OPERATIONS									
PHASE	FACE								
	1	2	3	4	5	6	7	8	EXCL. PED
Ø1	G	G	R	R	R	R	R	R	
Ø2	R	R	G/G	R	R	R	R	R	
Ø3	R	R	R	R	R	R	G	G	
Ø5	R	R	G	G	R	R	R	R	
Ø7	R	R	R	R	G	G	R	R	
Ø8	R	R	R	R	R	R	G/G	R	
Ø1+Ø5	G	G	G	G	R	R	R	R	
Ø2+Ø5	R	R	G/G	G	R	R	R	R	
Ø3+Ø7	R	R	R	R	G	G	G	G	
Ø3+Ø8	R	R	R	R	R	R	G/G	G	
FLASHING OPERATION	FL. Y	FL. Y	FL. Y	FL. Y	FL. R	FL. R	FL. R	FL. R	DARK

CCS = 82A Signal # = 6 Rte = 9 Rte Seq # = 460
DATE: 12/23/03 TIME: 15:08:45
++

TE 261 (11/95) PHASE TIMING DATA/TIMER INTERVALS

INTERVAL	PHASE/ INT. #	F1	F2	F3	F4	F5	F6	F7	F8
MEMORY/RECALL	00	003	000	000	000	003	000	003	000
WALK	01	___	___	___	___	___	___	___	___
PEDESTRIAN CLEARANCE	02	___	___	___	___	___	___	___	___
INITIAL	03	010	005	010	___	010	___	010	005
VARIABLE INITIAL	04	__._	__._	00.0	__._	__._	__._	__._	__._
VARIABLE INIT. LIMIT	05	___	050	000	050	050	050	050	050
TIME BEFOR REDUCTION	06	___	___	000	___	___	___	___	___
TIME TO REDUCE	07	___	___	000	___	___	___	___	___
MAXIMUM GAP	08	04.0	03.0	03.0	00.1	04.0	00.1	04.0	03.0
MINIMUM GAP	09	__._	__._	00.0	__._	__._	__._	__._	__._
GAP CLOCK	10	USED	WITH	DAA	ONLY	USED	WITH	DBB	ONLY
MAXIMUM GREEN 1	11	060	015	040	___	060	___	040	015
MAXIMUM GREEN 2	12	075	___	___	___	075	___	___	___
MAXIMUM GREEN 3	13	___	___	___	___	___	___	___	___
RECALL GREEN	14	030	010	035	___	045	___	020	010
YELLOW CLEARANCE	15	04.0	04.0	04.0	__._	04.0	__._	04.0	04.0
RED CLEARANCE	16	01.0	01.0	01.0	__._	01.0	__._	01.0	01.0
THIRD CLEARANCE	17	__._	__._	__._	__._	__._	__._	__._	__._
FOURTH CLEARANCE	18	__._	__._	__._	__._	__._	__._	__._	__._
		F1	F2	F3	F4	F5	F6	F7	F8



N

MAP REFERENCE:

1.) MAP PREPARED BY CREIGHTON MANNING ENGINEERING, LLP.

MAP NOTES:

1.) NORTH ORIENTATION AND ELEVATIONS SHOWN HEREON ARE BASED ON DATA DEPICTED ON MAP REFERENCE NO. 1.

2.) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED FROM FIELD SURVEY AND PREVIOUS MAPS AND RECORDS. THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE UNKNOWN TO THE UNDERSIGNED. THE SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY EXCAVATION, SOIL TESTING AND CONSTRUCTION.

LEGEND

SYMBOL PROPOSED	SYMBOL EXISTING	DESCRIPTION
●	○	SIGNAL POLE
■	□	GROUND MOUNTED CONTROLLER
■	□	POLE MOUNTED CONTROLLER
——	——	SPAN WIRE ASSEMBLY
- - - - -	═══	CONDUIT
1	2	PULLBOX (TRAFFIC SIGNALS & NUMBER)
		TRAFFIC SIGNAL HEAD - 1 WAY
		TRAFFIC SIGNAL HEAD - 2 WAY
		TRAFFIC SIGNAL HEAD - 3 WAY
		TRAFFIC SIGNAL HEAD - 4 WAY
3		SIGNAL FACE & NUMBER
		INDUCTANCE LOOP
3A		DETECTOR NUMBER (MICROPROCESSOR ONLY)
ø		PHASE
		PED. SIGNAL HEAD PUSH BUTTON
		UTILITY POLE
		TRAFFIC SIGN

TABLE OF OPERATIONS

PHASE	FACES 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	G	G	R	R	R	R	R	R	DW*	DW*	DW	DW	DW	DW	DW	DW
5	R	R	G	G	R	R	R	R	DW	DW	DW	DW	DW*	DW*	DW	DW
2	R	R	G-G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
4	R	R	R	R	G	G	R	R	DW	DW	DW	DW	DW	DW	DW*	DW*
3	R	R	R	R	R	R	G	G	DW	DW	DW*	DW*	DW	DW	DW	DW
8	R	R	R	R	R	R	G-G	G	DW	DW	DW	DW	DW	DW	DW	DW
1 + 5	G	G	G	G	R	R	R	R	DW*	DW*	DW	DW	DW*	DW*	DW	DW
3 + 4	R	R	R	R	G	G	G	G	DW	DW	DW*	DW*	DW	DW	DW*	DW*
FLASHING OPERATION	FL. YEL	FL. YEL	FL. YEL	FL. YEL	FL. RED	FL. RED	FL. RED	FL. RED	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK
LENSES ARE 300mm DIAMETER	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	HAND/ MAN	HAND/ MAN	HAND/ MAN	HAND/ MAN	HAND/ MAN	HAND/ MAN	HAND/ MAN	HAND/ MAN

* UPON ACTUATION OF A PEDESTRIAN PUSH BUTTON, THE INDICATION SHALL DISPLAY A STEADY "MAN" (WALK), FOLLOWED BY A FLASHING "HAND", AND THEN A STEADY "HAND" (DON'T WALK).

TABLE OF CLEARANCES

TO	FROM R	FROM G	FROM R-G	FROM G-G
R	R R	Y R	R-Y R	Y-Y R
G	R R	G G	R-Y R	G-Y G
R-G	R R	X	X	X
G-G	R R	G G	R-Y R	Y-Y X

TABLE OF INDUCTANCE LOOP DESIGN

DETECTOR NUMBER	PHASE NUMBER	INDUCTANCE LOOP SIZE	NUMBER OF TURNS	JUNCTION BOXES	1 1/4 NPS CONDUIT	DUAL LOOP DET. MODULES
1A	ø1	6'x 60' (1.8x18 m)	2	0	-	1
2A	ø2	6'x 60' (1.8x18 m)	2-4-2	0	-	1
4A	ø4	6'x 40' (1.8x12 m)	2	0	-	1
8A	ø8	6'x 40' (1.8x12 m)	2-4-2	0	-	1

0 20 40
(IN FEET)
1 INCH = 20 FT.

TRAFFIC SIGNAL PLAN

OFFSITE HIGHWAY IMPROVEMENTS
TO U.S. ROUTE 9
TOWN OF RED HOOK, NEW YORK

CREIGHTON MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

MARTIN'S FOODS OF SOUTH BURLINGTON, INC.
P.O.BOX 1000
PORTLAND, ME 04104

NO.	REVISION	DATE	BY

JEFFREY W. PANGBURN, PE

PROGRESS PRINT
NOT FOR CONSTRUCTION

LIC. NO. 076931

DESIGN:	K.L.F.
DRAWN:	A.J.C.
CHECKED:	J.W.P.
FILE:	99046TSP2.DWG
SCALE:	1" = 20'
SUBMISSION:	40%
DATE:	OCT. 26, 2001
PROJ. NO.	99-046

TSP2

STATION: **820075**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **US 9** ROAD NAME: **9**
DIRECTION: Northbound FACTOR GROUP: 30
STATE DIR CODE: 1 WK OF YR: 16
DATE OF COUNT: 04/14/2008
NOTES LANE 1: Week 16-Nb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9G**
REC. SERIAL #: 3967
PLACEMENT: 1200' S of Hannaford Dr
@ REF MARKER: 9 82053193
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 199 RED HOOK**
FUNC. CLASS: 14
NHS: yes
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww16

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN:
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	T																											
2	W																											
3	T																											
4	F																											
5	S																											
6	S																											
7	M																											
8	T																											
9	W																											
10	T																											
11	F																											
12	S																											
13	S																											
14	M												324	361	331	414	449	521	469	308	242	194	153	76	46			
15	T	20	12	8	11	12	27	99	197	302	299	324	363	378	376	419	505	517	481	305	283	190	155	78	55	5416	517	16
16	W	16	14	6	16	21	36	104	217	275	296	335	357	414	366	446	472	503	480	287	282	239	151	82	46	5461	503	16
17	T	26	8	6	16	18	39	92	217	320	310	290																
18	F																											
19	S																											
20	S																											
21	M																											
22	T																											
23	W																											
24	T																											
25	F																											
26	S																											
27	S																											
28	M																											
29	T																											
30	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

21	11	7	14	17	33	96	206	293	296	309	341	376	350	417	465	503	467	294	263	204	150	77	48	ADT 5258

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	72	4	72	503	10%	0.979	1.052	**AADT 4998**

STATION: **820075**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **US 9** ROAD NAME: **9**
DIRECTION: Southbound FACTOR GROUP: 30
STATE DIR CODE: 2 WK OF YR: 16
DATE OF COUNT: 04/14/2008
NOTES LANE 1: Week 16-Sb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9G**
REC. SERIAL #: 3967
PLACEMENT: 1200' S of Hannaford Dr
@ REF MARKER: 9 82053193
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 199 RED HOOK**
FUNC. CLASS: 14
NHS: yes
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww16

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN:
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	T																											
2	W																											
3	T																											
4	F																											
5	S																											
6	S																											
7	M																											
8	T																											
9	W																											
10	T																											
11	F																											
12	S																											
13	S																											
14	M												343	358	340	355	373	322	338	279	169	117	94	39	43			
15	T	12	4	11	14	48	88	301	364	426	361	375	360	347	333	368	388	360	345	274	182	132	114	60	46	5313	426	8
16	W	19	8	12	8	33	109	280	403	438	390	359	366	378	377	365	378	364	322	268	194	139	92	62	34	5398	438	8
17	T	20	9	6	15	45	110	282	419	424	404	354																
18	F																											
19	S																											
20	S																											
21	M																											
22	T																											
23	W																											
24	T																											
25	F																											
26	S																											
27	S																											
28	M																											
29	T																											
30	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

17	7	10	12	41	100	282	387	420	377	355	349	353	343	355	372	342	328	268	178	126	98	53	40	ADT 5213

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	72	4	72	420	8%	0.979	1.052	**AADT 4955**

STATION: **820488**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Eastbound FACTOR GROUP: 30
STATE DIR CODE: 1 WK OF YR: 16
DATE OF COUNT: 04/14/2008
NOTES LANE 1: Week 16-Eb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **END 9G OLAP E BARRYTWN** TO: **RT 9 RED HOOK**
REC. SERIAL #: 7419 FUNC. CLASS: 16
PLACEMENT: .4 E of Meadow Drive NHS: no
@ REF MARKER: 199 82021047 JURIS: NYSDOT
ADDL DATA: CC Stn:
COUNT TYPE: AXLE PAIRS BATCH ID: R08-R08Cww16
PROCESSED BY: ORG CODE: DOT INITIALS: jh

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN:
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	T																											
2	W																											
3	T																											
4	F																											
5	S																											
6	S																											
7	M																											
8	T																											
9	W																											
10	T																											
11	F																											
12	S																											
13	S																											
14	M														224	212	272	311	257	198	176	136	114	66	33			
15	T	29	13	4	7	4	22	64	114	170	149	184	186	214	210	210	258	283	295	237	197	157	121	62	37	3227	295	17
16	W	24	13	6	2	5	31	74	126	155	174	161	198	242	232	232	276	251	273	208	171	158	137	73	45	3267	276	15
17	T	21	9	6	6	6	24	70	114	181	196	155	183	250														
18	F																											
19	S																											
20	S																											
21	M																											
22	T																											
23	W																											
24	T																											
25	F																											
26	S																											
27	S																											
28	M																											
29	T																											
30	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

																								ADT
25	**12**	**5**	**5**	**5**	**26**	**68**	**116**	**166**	**170**	**164**	**186**	**231**	**218**	**214**	**264**	**277**	**270**	**210**	**178**	**147**	**122**	**66**	**37**	**3182**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	72	4	72	277	9%	0.983	1.052	**AADT 3025**

New York State Department of Transportation

Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Westbound FACTOR GROUP: 30
STATE DIR CODE: 2 WK OF YR: 16
DATE OF COUNT: 04/14/2008
NOTES LANE 1: Week 16-Wb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **END 9G OLAP E BARRYTWN**
REC. SERIAL #: 7419
PLACEMENT: .4 E of Meadow Drive
@ REF MARKER: 199 82021047
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 9 RED HOOK**
FUNC. CLASS: 16
NHS: no
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww16

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN:
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	T																											
2	W																											
3	T																											
4	F																											
5	S																											
6	S																											
7	M																											
8	T																											
9	W																											
10	T																											
11	F																											
12	S																											
13	S																											
14	M														**258**	**243**	**231**	**248**	**255**	**218**	**144**	**112**	**81**	**43**	**28**			
15	T	**21**	**10**	**2**	**10**	**15**	**41**	**91**	**163**	**208**	**198**	**194**	**231**	**217**	**226**	**221**	**248**	**259**	**254**	**215**	**166**	**131**	**121**	**47**	**41**	3330	259	16
16	W	**13**	**7**	**6**	**12**	**15**	**38**	**117**	**163**	**210**	**234**	**182**	**193**	**195**	**221**	**212**	**223**	**215**	**287**	**224**	**168**	**103**	**103**	**65**	**43**	3249	287	17
17	T	**21**	**10**	**7**	**8**	**15**	**38**	**103**	**160**	**210**	**218**	**213**	**213**	**201**														
18	F																											
19	S																											
20	S																											
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23	W																											
24	T																											
25	F																											
26	S																											
27	S																											
28	M																											
29	T																											
30	W																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

18	9	5	10	15	38	102	159	205	213	193	208	201	231	221	230	237	260	215	156	113	100	51	36	ADT 3226

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	72	4	72	260	8%	0.983	1.052	**AADT 3067**

STATION: **820489**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Eastbound FACTOR GROUP: 30
STATE DIR CODE: 1 WK OF YR: 24
DATE OF COUNT: 06/09/2008
NOTES LANE 1: Week 24-Eb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9 RED HOOK**
REC. SERIAL #: 9051
PLACEMENT: 1200' E of Crestwood Rd
@ REF MARKER: 199 82021078
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 308 ROCK CITY**
FUNC. CLASS: 16
NHS: no
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww24

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN: 1040020
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																											
5	T																											
6	F																											
7	S																											
8	S																											
9	M												**168**	**164**	**171**	**201**	**247**	**211**	**219**	**148**	**118**	**109**	**98**	**44**	**20**			
10	T	**16**	**8**	**3**	**7**	**16**	**45**	**155**	**179**	**136**	**183**	**170**	**176**	**200**	**172**	**209**	**209**	**255**	**206**	**145**	**112**	**134**	**122**	**42**	**30**	2930	255	16
11	W	**15**	**7**	**5**	**6**	**16**	**53**	**143**	**192**	**195**	**177**	**142**	**171**	**182**	**183**	**197**	**234**	**224**	**241**	**152**	**135**	**149**	**114**	**45**	**19**	2997	241	17
12	T	**7**	**7**	**7**	**1**	**12**	**46**	**140**	**203**	**184**	**168**	**149**	**168**															
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
24	T																											
25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

13	7	5	5	15	47	144	188	169	173	151	168	179	172	199	226	226	218	145	120	129	109	43	23	ADT 2874

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	73	4	73	226	8%	0.983	1.120	**AADT 2566**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Westbound FACTOR GROUP: 30
STATE DIR CODE: 2 WK OF YR: 24
DATE OF COUNT: 06/09/2008
NOTES LANE 1: Week 24-Wb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9 RED HOOK**
REC. SERIAL #: 9051
PLACEMENT: 1200' E of Crestwood Rd
@ REF MARKER: 199 82021078
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 308 ROCK CITY**
FUNC. CLASS: 16
NHS: no
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww24

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN: 1040020
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																											
5	T																											
6	F																											
7	S																											
8	S																											
9	M												148	146	154	221	244	252	241	160	108	88	49	35	15			
10	T	15	11	4	6	5	33	74	238	230	174	146	155	173	199	189	256	251	204	175	115	84	64	32	23	2856	256	15
11	W	9	4	12	3	9	33	85	228	207	196	156	158	162	160	209	236	284	250	190	115	91	71	34	19	2921	284	16
12	T	12	8	3	3	13	29	82	225	231	177	158	173															
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
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25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12	8	6	4	9	31	79	226	219	179	150	155	157	168	202	241	258	228	172	111	87	60	33	19	ADT 2814

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	73	4	73	258	9%	0.983	1.120	**AADT 2512**

STATION: **820489**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Eastbound FACTOR GROUP: 30
STATE DIR CODE: 1 WK OF YR: 24
DATE OF COUNT: 06/09/2008
NOTES LANE 1: Week 24-Eb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9 RED HOOK**
REC. SERIAL #: 9051
PLACEMENT: 1200' E of Crestwood Rd
@ REF MARKER: 199 82021078
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 308 ROCK CITY**
FUNC. CLASS: 16
NHS: no
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww24

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN: 1040020
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																											
5	T																											
6	F																											
7	S																											
8	S																											
9	M												**168**	**164**	**171**	**201**	**247**	**211**	**219**	**148**	**118**	**109**	**98**	**44**	**20**			
10	T	**16**	**8**	**3**	**7**	**16**	**45**	**155**	**179**	**136**	**183**	**170**	**176**	**200**	**172**	**209**	**209**	**255**	**206**	**145**	**112**	**134**	**122**	**42**	**30**	2930	255	16
11	W	**15**	**7**	**5**	**6**	**16**	**53**	**143**	**192**	**195**	**177**	**142**	**171**	**182**	**183**	**197**	**234**	**224**	**241**	**152**	**135**	**149**	**114**	**45**	**19**	2997	241	17
12	T	**7**	**7**	**7**	**1**	**12**	**46**	**140**	**203**	**184**	**168**	**149**	**168**															
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
24	T																											
25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

13	7	5	5	15	47	144	188	169	173	151	168	179	172	199	226	226	218	145	120	129	109	43	23	ADT 2874

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	73	4	73	226	8%	0.983	1.120	**AADT 2566**

STATION: **820489**

New York State Department of Transportation
Traffic Count Hourly Report

ROUTE #: **NY 199** ROAD NAME: **199**
DIRECTION: Westbound FACTOR GROUP: 30
STATE DIR CODE: 2 WK OF YR: 24
DATE OF COUNT: 06/09/2008
NOTES LANE 1: Week 24-Wb

COUNT TAKEN BY: ORG CODE: TST INITIALS: JSV

FROM: **RT 9 RED HOOK**
REC. SERIAL #: 9051
PLACEMENT: 1200' E of Crestwood Rd
@ REF MARKER: 199 82021078
ADDL DATA:
COUNT TYPE: AXLE PAIRS
PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 308 ROCK CITY**
FUNC. CLASS: 16
NHS: no
JURIS: NYSDOT
CC Stn:
BATCH ID: R08-R08Cww24

COUNTY: **Dutchess**
TOWN: **RED HOOK**
BIN: 1040020
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		AM												PM														
1	S																											
2	M																											
3	T																											
4	W																											
5	T																											
6	F																											
7	S																											
8	S																											
9	M												148	146	154	221	244	252	241	160	108	88	49	35	15			
10	T	15	11	4	6	5	33	74	238	230	174	146	155	173	199	189	256	251	204	175	115	84	64	32	23	2856	256	15
11	W	9	4	12	3	9	33	85	228	207	196	156	158	162	160	209	236	284	250	190	115	91	71	34	19	2921	284	16
12	T	12	8	3	3	13	29	82	225	231	177	158	173															
13	F																											
14	S																											
15	S																											
16	M																											
17	T																											
18	W																											
19	T																											
20	F																											
21	S																											
22	S																											
23	M																											
24	T																											
25	W																											
26	T																											
27	F																											
28	S																											
29	S																											
30	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12	8	6	4	9	31	79	226	219	179	150	155	157	168	202	241	258	228	172	111	87	60	33	19	ADT 2814

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED (one way)
4	73	4	73	258	9%	0.983	1.120	**AADT 2512**

HOFFMAN PROPERTY RESIDENTIAL DEVELOPMENT

APPENDIX C

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 18-4 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 18-4

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

LEVEL OF SERVICE CRITERIA
FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 19-1

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

LEVEL OF SERVICE CRITERIA
FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 20-2. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 20-2 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 20-2

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

HOFFMAN PROPERTY RESIDENTIAL DEVELOPMENT

APPENDIX D

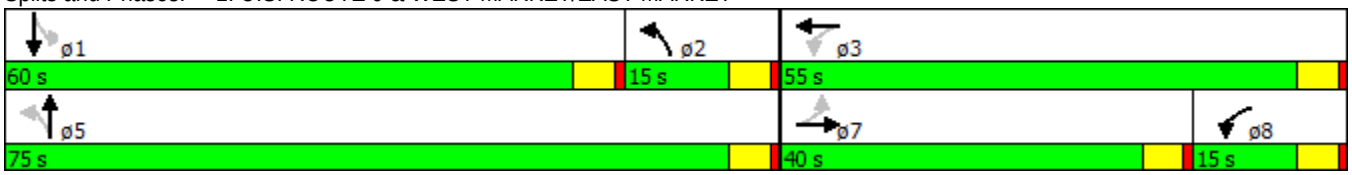
CAPACITY ANALYSIS SUMMARY SHEETS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	90	81	70	109	38	52	271	49	25	353	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953			0.976			0.982			0.986	
Flt Protected		0.987			0.984			0.993			0.997	
Satd. Flow (prot)	0	1515	0	0	1547	0	0	1570	0	0	1583	0
Flt Permitted		0.866			0.846			0.893			0.963	
Satd. Flow (perm)	0	1329	0	0	1330	0	0	1412	0	0	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			10			9			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	72	103	93	80	125	44	60	311	56	29	406	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	249	0	0	427	0	0	484	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	40.0	40.0		15.0	55.0		15.0	75.0		60.0	60.0	
Total Split (%)	30.8%	30.8%		11.5%	42.3%		11.5%	57.7%		46.2%	46.2%	
Maximum Green (s)	35.0	35.0		10.0	50.0		10.0	70.0		55.0	55.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		21.4			21.4			26.8			26.8	
Actuated g/C Ratio		0.38			0.38			0.47			0.47	
v/c Ratio		0.52			0.49			0.64			0.67	
Control Delay		18.4			18.4			17.3			17.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.4			18.4			17.3			17.9	
LOS		B			B			B			B	
Approach Delay		18.4			18.4			17.3			17.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		60			58			94			110	
Queue Length 95th (ft)		154			146			233			265	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		916			1165			1371			1380	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.21			0.31			0.35	

Intersection Summary	
Area Type: Other	
Cycle Length: 130	
Actuated Cycle Length: 57	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	3	15	39	1	17	7	337	71	22	504	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957			0.959			0.977			0.998	
Flt Protected		0.970			0.967			0.999			0.998	
Satd. Flow (prot)	0	1680	0	0	1678	0	0	1766	0	0	1802	0
Flt Permitted		0.970			0.967			0.999			0.998	
Satd. Flow (perm)	0	1680	0	0	1678	0	0	1766	0	0	1802	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	31	3	16	43	1	19	8	370	78	24	554	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	63	0	0	456	0	0	587	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	28	3	15	39	1	17	7	337	71	22	504	8
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	31	3	16	43	1	19	8	370	78	24	554	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1042	1071	558	1041	1036	409	563	0	0	448	0	0
Stage 1	607	607	-	425	425	-	-	-	-	-	-	-
Stage 2	435	464	-	616	611	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	205	218	523	205	229	636	994	-	-	1097	-	-
Stage 1	478	482	-	601	581	-	-	-	-	-	-	-
Stage 2	594	558	-	473	480	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	192	209	523	190	219	636	994	-	-	1097	-	-
Mov Capacity-2 Maneuver	192	209	-	190	219	-	-	-	-	-	-	-
Stage 1	473	467	-	594	575	-	-	-	-	-	-	-
Stage 2	569	552	-	440	465	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	25.1	0.1	0.3
HCM LOS	C	D		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	994	-	-	244	241	1097	-	-
HCM Lane V/C Ratio	0.008	-	-	0.207	0.26	0.022	-	-
HCM Control Delay (s)	8.65	0	-	23.6	25.1	8.356	0	-
HCM Lane LOS	A	A		C	D	A	A	
HCM 95th %tile Q(veh)	0.023	-	-	0.76	1.008	0.068	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	18	22	18	365	480	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.995	
Flt Protected	0.978			0.998		
Satd. Flow (prot)	1687	0	0	1859	1872	0
Flt Permitted	0.978			0.998		
Satd. Flow (perm)	1687	0	0	1859	1872	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	24	20	397	522	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	0	0	417	542	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	18	22	18	365	480	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	-2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	24	20	397	522	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	968	532	541	0	-	0
Stage 1	532	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	282	547	1028	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	275	547	1028	-	-	-
Mov Capacity-2 Maneuver	275	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.4	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1028	-	379	-	-
HCM Lane V/C Ratio	0.019	-	0.115	-	-
HCM Control Delay (s)	8.57	0	15.7	-	-
HCM Lane LOS	A	A	C		
HCM 95th %tile Q(veh)	0.058	-	0.385	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

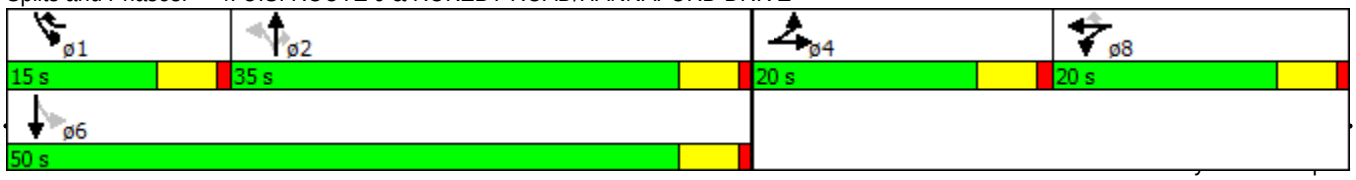
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	6	20	15	2	28	6	280	20	39	385	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962				0.850			0.850		0.981	
Flt Protected		0.969			0.957		0.950			0.950		
Satd. Flow (prot)	0	1622	0	0	1775	1577	1629	1714	1457	1678	1793	0
Flt Permitted		0.969			0.957		0.490			0.501		
Satd. Flow (perm)	0	1622	0	0	1775	1577	840	1714	1457	885	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				85			145		12	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	50	7	22	16	2	30	7	304	22	42	418	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	18	30	7	304	22	42	477	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		9.1			7.3	9.4	46.2	46.2	46.2	52.4	53.3	
Actuated g/C Ratio		0.13			0.10	0.14	0.66	0.66	0.66	0.75	0.77	
v/c Ratio		0.34			0.10	0.10	0.01	0.27	0.02	0.06	0.35	
Control Delay		26.4			30.0	0.8	10.7	9.9	0.1	4.7	5.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		26.4			30.0	0.8	10.7	9.9	0.1	4.7	5.5	
LOS		C			C	A	B	A	A	A	A	
Approach Delay		26.4			11.7			9.2			5.5	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		21			6	0	1	55	0	3	47	
Queue Length 95th (ft)		65			27	0	9	168	0	21	189	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		391			412	370	557	1138	1016	792	1375	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.20			0.04	0.08	0.01	0.27	0.02	0.05	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 69.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 49.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



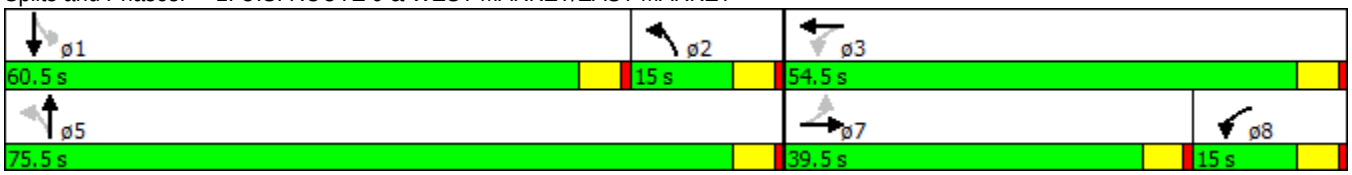
Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	110	85	130	122	59	70	438	65	104	225	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.974			0.985			0.979	
Flt Protected		0.984			0.980			0.994			0.987	
Satd. Flow (prot)	0	1521	0	0	1537	0	0	1577	0	0	1556	0
Flt Permitted		0.789			0.715			0.908			0.701	
Satd. Flow (perm)	0	1220	0	0	1122	0	0	1440	0	0	1105	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			11			8			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	98	117	90	138	130	63	74	466	69	111	239	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	305	0	0	331	0	0	609	0	0	413	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	39.5	39.5		15.0	54.5		15.0	75.5		60.5	60.5	
Total Split (%)	30.4%	30.4%		11.5%	41.9%		11.5%	58.1%		46.5%	46.5%	
Maximum Green (s)	34.5	34.5		10.0	49.5		10.0	70.5		55.5	55.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		37.9			37.9			47.4			47.4	
Actuated g/C Ratio		0.40			0.40			0.50			0.50	
v/c Ratio		0.61			0.72			0.83			0.73	
Control Delay		29.6			36.0			32.1			28.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		29.6			36.0			32.1			28.0	
LOS		C			D			C			C	
Approach Delay		29.6			36.0			32.1			28.0	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		126			148			291			180	
Queue Length 95th (ft)		302			358			550			365	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		571			660			1123			754	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.53			0.50			0.54			0.55	

Intersection Summary	
Area Type: Other	
Cycle Length: 130	
Actuated Cycle Length: 94	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 31.4	Intersection LOS: C
Intersection Capacity Utilization 71.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	0	20	56	0	29	13	540	116	15	466	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937			0.953			0.977			0.994	
Flt Protected		0.974			0.968			0.999			0.998	
Satd. Flow (prot)	0	1651	0	0	1669	0	0	1766	0	0	1795	0
Flt Permitted		0.974			0.968			0.999			0.998	
Satd. Flow (perm)	0	1651	0	0	1669	0	0	1766	0	0	1795	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	24	0	21	59	0	31	14	568	122	16	491	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	90	0	0	704	0	0	530	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	23	0	20	56	0	29	13	540	116	15	466	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	24	0	21	59	0	31	14	568	122	16	491	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1206	1252	502	1201	1202	629	514	0	0	691	0	0
Stage 1	534	534	-	657	657	-	-	-	-	-	-	-
Stage 2	672	718	-	544	545	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	158	170	563	159	182	477	1036	-	-	890	-	-
Stage 1	524	520	-	449	457	-	-	-	-	-	-	-
Stage 2	440	429	-	518	514	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	143	162	563	148	174	477	1036	-	-	890	-	-
Mov Capacity-2 Maneuver	143	162	-	148	174	-	-	-	-	-	-	-
Stage 1	512	507	-	439	447	-	-	-	-	-	-	-
Stage 2	403	420	-	486	501	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.7	38.5	0.2	0.3
HCM LOS	D	E		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1036	-	-	219	194	890	-	-
HCM Lane V/C Ratio	0.013	-	-	0.207	0.461	0.018	-	-
HCM Control Delay (s)	8.521	0	-	25.7	38.5	9.118	0	-
HCM Lane LOS	A	A		D	E	A	A	
HCM 95th %tile Q(veh)	0.04	-	-	0.755	2.198	0.054	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	31	36	653	514	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.920				0.994	
Flt Protected	0.980			0.997		
Satd. Flow (prot)	1679	0	0	1857	1870	0
Flt Permitted	0.980			0.997		
Satd. Flow (perm)	1679	0	0	1857	1870	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	32	38	680	535	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	718	559	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	21	31	36	653	514	23
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	-2	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	32	38	680	535	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1302	547	559	0	-	0
Stage 1	547	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	177	537	1012	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	166	537	1012	-	-	-
Mov Capacity-2 Maneuver	166	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	0.5	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	282	-	-
HCM Lane V/C Ratio	0.037	-	0.192	-	-
HCM Control Delay (s)	8.694	0	20.8	-	-
HCM Lane LOS	A	A	C		
HCM 95th %tile Q(veh)	0.115	-	0.696	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

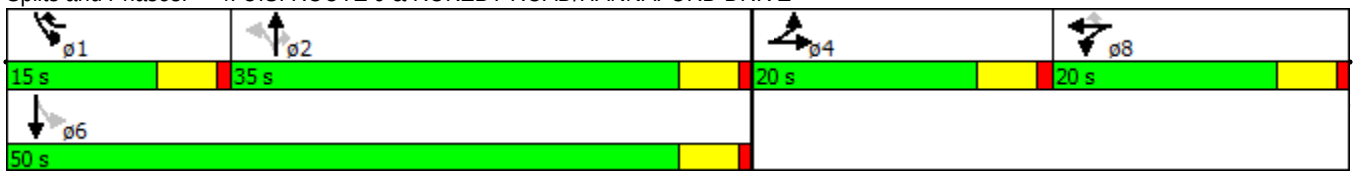
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	28	16	39	29	136	25	473	58	96	332	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982				0.850			0.850		0.967	
Flt Protected		0.969			0.972		0.950			0.950		
Satd. Flow (prot)	0	1656	0	0	1803	1577	1629	1714	1457	1678	1767	0
Flt Permitted		0.969			0.972		0.499			0.276		
Satd. Flow (perm)	0	1656	0	0	1803	1577	855	1714	1457	488	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				146			145		23	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	84	30	17	42	31	146	27	509	62	103	357	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	0	73	146	27	509	62	103	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		11.9			9.6	19.7	36.4	36.4	36.4	49.2	50.3	
Actuated g/C Ratio		0.15			0.12	0.26	0.47	0.47	0.47	0.64	0.65	
v/c Ratio		0.50			0.33	0.29	0.07	0.63	0.08	0.23	0.40	
Control Delay		36.8			37.0	5.7	17.6	25.0	0.2	10.3	10.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		36.8			37.0	5.7	17.6	25.0	0.2	10.3	10.8	
LOS		D			D	A	B	C	A	B	B	
Approach Delay		36.8			16.1			22.1			10.7	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		57			34	0	8	204	0	21	112	
Queue Length 95th (ft)		115			76	40	28	#425	0	52	220	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		354			380	556	403	808	763	484	1159	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.37			0.19	0.26	0.07	0.63	0.08	0.21	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 55.0% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



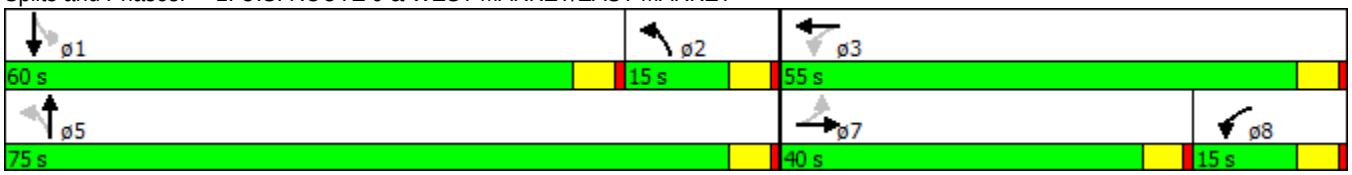
Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	95	88	79	114	40	59	301	57	26	381	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.977			0.981			0.986	
Flt Protected		0.987			0.983			0.993			0.997	
Satd. Flow (prot)	0	1513	0	0	1547	0	0	1569	0	0	1583	0
Flt Permitted		0.866			0.819			0.888			0.960	
Satd. Flow (perm)	0	1328	0	0	1289	0	0	1403	0	0	1524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			9			10			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	76	109	101	91	131	46	68	346	66	30	438	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	286	0	0	268	0	0	480	0	0	520	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	40.0	40.0		15.0	55.0		15.0	75.0		60.0	60.0	
Total Split (%)	30.8%	30.8%		11.5%	42.3%		11.5%	57.7%		46.2%	46.2%	
Maximum Green (s)	35.0	35.0		10.0	50.0		10.0	70.0		55.0	55.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		25.3			25.3			32.4			32.4	
Actuated g/C Ratio		0.38			0.38			0.49			0.49	
v/c Ratio		0.55			0.54			0.70			0.70	
Control Delay		21.4			22.1			20.4			20.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.4			22.1			20.4			20.1	
LOS		C			C			C			C	
Approach Delay		21.4			22.1			20.4			20.1	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		79			77			130			142	
Queue Length 95th (ft)		196			191			307			328	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		815			1019			1300			1267	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.35			0.26			0.37			0.41	

Intersection Summary	
Area Type: Other	
Cycle Length: 130	
Actuated Cycle Length: 66.5	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 65.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	3	16	49	1	18	7	387	79	23	576	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.954			0.964			0.977			0.998	
Flt Protected		0.971			0.965			0.999			0.998	
Satd. Flow (prot)	0	1676	0	0	1683	0	0	1766	0	0	1802	0
Flt Permitted		0.971			0.965			0.999			0.998	
Satd. Flow (perm)	0	1676	0	0	1683	0	0	1766	0	0	1802	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	32	3	18	54	1	20	8	425	87	25	633	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	75	0	0	520	0	0	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 55.5%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	29	3	16	49	1	18	7	387	79	23	576	8
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	32	3	18	54	1	20	8	425	87	25	633	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1183	1215	637	1182	1176	469	642	0	0	512	0	0
Stage 1	688	688	-	484	484	-	-	-	-	-	-	-
Stage 2	495	527	-	698	692	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	164	179	472	164	189	588	928	-	-	1038	-	-
Stage 1	432	442	-	558	547	-	-	-	-	-	-	-
Stage 2	551	523	-	426	441	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	152	170	472	150	180	588	928	-	-	1038	-	-
Mov Capacity-2 Maneuver	152	170	-	150	180	-	-	-	-	-	-	-
Stage 1	427	426	-	551	540	-	-	-	-	-	-	-
Stage 2	525	517	-	392	425	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.7	36.5	0.1	0.3
HCM LOS	D	E		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	928	-	-	198	187	1038	-	-
HCM Lane V/C Ratio	0.008	-	-	0.266	0.4	0.024	-	-
HCM Control Delay (s)	8.912	0	-	29.7	36.5	8.555	0	-
HCM Lane LOS	A	A		D	E	A	A	
HCM 95th %tile Q(veh)	0.025	-	-	1.031	1.773	0.075	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	19	23	19	422	551	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.927				0.995	
Flt Protected	0.978			0.998		
Satd. Flow (prot)	1689	0	0	1859	1872	0
Flt Permitted	0.978			0.998		
Satd. Flow (perm)	1689	0	0	1859	1872	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	25	21	459	599	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	0	480	620	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	19	23	19	422	551	19
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	-2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	25	21	459	599	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1109	609	620	0	-	0
Stage 1	609	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	232	495	960	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	225	495	960	-	-	-
Mov Capacity-2 Maneuver	225	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.4	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	960	-	321	-	-
HCM Lane V/C Ratio	0.022	-	0.142	-	-
HCM Control Delay (s)	8.832	0	18.1	-	-
HCM Lane LOS	A	A	C		
HCM 95th %tile Q(veh)	0.066	-	0.49	-	-

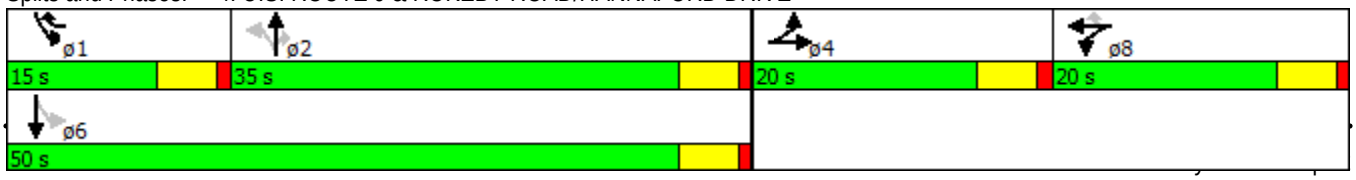
Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	6	21	16	2	29	6	333	21	41	451	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962				0.850			0.850		0.983	
Flt Protected		0.969			0.957		0.950			0.950		
Satd. Flow (prot)	0	1622	0	0	1775	1577	1629	1714	1457	1678	1797	0
Flt Permitted		0.969			0.957		0.458			0.457		
Satd. Flow (perm)	0	1622	0	0	1775	1577	785	1714	1457	807	1797	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				85			145		10	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	52	7	23	17	2	32	7	362	23	45	490	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	19	32	7	362	23	45	552	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		9.4			7.4	9.6	46.1	46.1	46.1	52.4	53.2	
Actuated g/C Ratio		0.13			0.11	0.14	0.66	0.66	0.66	0.75	0.76	
v/c Ratio		0.35			0.10	0.11	0.01	0.32	0.02	0.06	0.40	
Control Delay		26.5			30.2	0.8	11.0	10.6	0.0	4.9	6.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		26.5			30.2	0.8	11.0	10.6	0.0	4.9	6.2	
LOS		C			C	A	B	B	A	A	A	
Approach Delay		26.5			11.7			10.0			6.1	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)		22			7	0	1	69	0	4	59	
Queue Length 95th (ft)		67			28	0	9	207	0	22	234	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		389			410	370	518	1131	1011	744	1373	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.21			0.05	0.09	0.01	0.32	0.02	0.06	0.40	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 69.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 51.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



Two Way Analysis cannot be performed on Signalized Intersection.

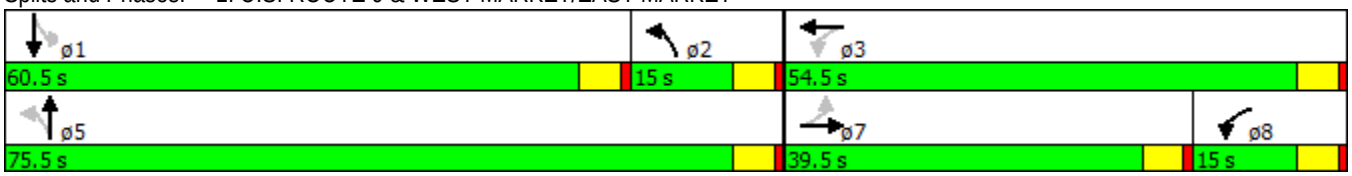
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	116	94	144	128	62	78	472	73	109	254	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.975			0.984			0.980	
Flt Protected		0.984			0.979			0.994			0.987	
Satd. Flow (prot)	0	1520	0	0	1537	0	0	1575	0	0	1558	0
Flt Permitted		0.766			0.663			0.891			0.681	
Satd. Flow (perm)	0	1183	0	0	1041	0	0	1412	0	0	1075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			10			8			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	103	123	100	153	136	66	83	502	78	116	270	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	355	0	0	663	0	0	452	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	39.5	39.5		15.0	54.5		15.0	75.5		60.5	60.5	
Total Split (%)	30.4%	30.4%		11.5%	41.9%		11.5%	58.1%		46.5%	46.5%	
Maximum Green (s)	34.5	34.5		10.0	49.5		10.0	70.5		55.5	55.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		44.7			44.7			64.0			64.0	
Actuated g/C Ratio		0.38			0.38			0.55			0.55	
v/c Ratio		0.70			0.88			0.85			0.76	
Control Delay		39.0			56.9			35.7			31.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.0			56.9			35.7			31.4	
LOS		D			E			D			C	
Approach Delay		39.0			56.9			35.7			31.4	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)		193			238			445			276	
Queue Length 95th (ft)		335			#452			#710			439	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		463			461			878			592	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.70			0.77			0.76			0.76	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 116.8
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 39.4 Intersection LOS: D
Intersection Capacity Utilization 76.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	0	21	64	0	30	14	621	130	16	526	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937			0.956			0.977			0.995	
Flt Protected		0.974			0.967			0.999			0.999	
Satd. Flow (prot)	0	1651	0	0	1673	0	0	1766	0	0	1799	0
Flt Permitted		0.974			0.967			0.999			0.999	
Satd. Flow (perm)	0	1651	0	0	1673	0	0	1766	0	0	1799	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	25	0	22	67	0	32	15	654	137	17	554	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	99	0	0	806	0	0	595	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 60.9%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	24	0	21	64	0	30	14	621	130	16	526	23
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	25	0	22	67	0	32	15	654	137	17	554	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1366	1419	566	1363	1364	722	578	0	0	791	0	0
Stage 1	599	599	-	752	752	-	-	-	-	-	-	-
Stage 2	767	820	-	611	612	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	123	135	518	123	145	422	981	-	-	816	-	-
Stage 1	483	486	-	398	414	-	-	-	-	-	-	-
Stage 2	390	385	-	476	479	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	109	127	518	113	137	422	981	-	-	816	-	-
Mov Capacity-2 Maneuver	109	127	-	113	137	-	-	-	-	-	-	-
Stage 1	469	471	-	387	402	-	-	-	-	-	-	-
Stage 2	351	374	-	442	464	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.5	69.2	0.2	0.3
HCM LOS	D	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	981	-	-	173	147	816	-	-
HCM Lane V/C Ratio	0.015	-	-	0.274	0.673	0.021	-	-
HCM Control Delay (s)	8.726	0	-	33.5	69.2	9.505	0	-
HCM Lane LOS	A	A		D	F	A	A	
HCM 95th %tile Q(veh)	0.046	-	-	1.06	3.788	0.063	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	22	33	38	753	586	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.995	
Flt Protected	0.980			0.998		
Satd. Flow (prot)	1678	0	0	1859	1872	0
Flt Permitted	0.980			0.998		
Satd. Flow (perm)	1678	0	0	1859	1872	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	34	40	784	610	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	0	0	824	635	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	22	33	38	753	586	24
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	-2	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	34	40	784	610	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1487	623	635	0	-	0
Stage 1	623	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	137	486	948	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	127	486	948	-	-	-
Mov Capacity-2 Maneuver	127	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26	0.4	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	948	-	228	-	-
HCM Lane V/C Ratio	0.042	-	0.251	-	-
HCM Control Delay (s)	8.963	0	26	-	-
HCM Lane LOS	A	A	D		
HCM 95th %tile Q(veh)	0.131	-	0.963	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

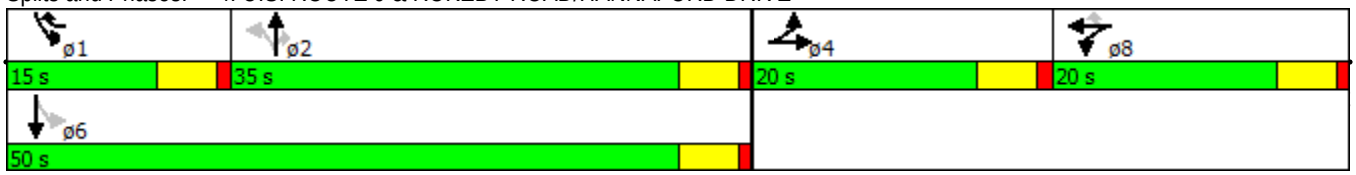
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	29	17	41	30	143	26	564	61	101	395	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982				0.850			0.850		0.970	
Flt Protected		0.969			0.972		0.950			0.950		
Satd. Flow (prot)	0	1656	0	0	1803	1577	1629	1714	1457	1678	1773	0
Flt Permitted		0.969			0.972		0.467			0.177		
Satd. Flow (perm)	0	1656	0	0	1803	1577	801	1714	1457	313	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				154			145		20	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	88	31	18	44	32	154	28	606	66	109	425	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	137	0	0	76	154	28	606	66	109	531	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		12.2			9.7	20.1	34.7	34.7	34.7	47.6	47.6	
Actuated g/C Ratio		0.15			0.12	0.25	0.44	0.44	0.44	0.60	0.60	
v/c Ratio		0.53			0.34	0.30	0.08	0.81	0.09	0.32	0.49	
Control Delay		37.7			37.5	5.6	18.1	33.3	0.2	11.6	12.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		37.7			37.5	5.6	18.1	33.3	0.2	11.6	12.5	
LOS		D			D	A	B	C	A	B	B	
Approach Delay		37.7			16.1			29.6			12.3	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		60			36	0	8	268	0	23	143	
Queue Length 95th (ft)		120			78	41	29	#550	0	55	272	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		343			368	555	351	752	720	379	1074	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.40			0.21	0.28	0.08	0.81	0.09	0.29	0.49	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 22.0 Intersection LOS: C
Intersection Capacity Utilization 59.0% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



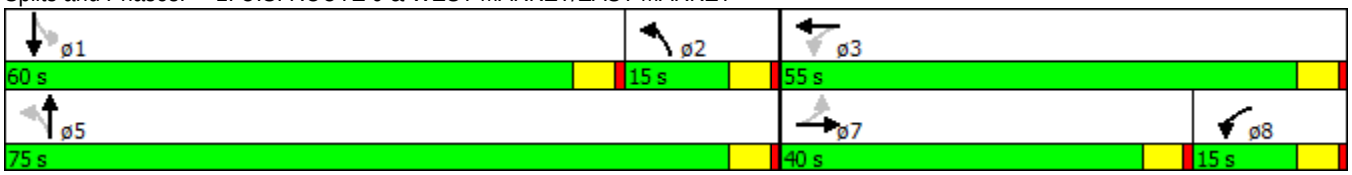
Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	95	89	80	114	40	62	313	64	26	384	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.977			0.980			0.987	
Flt Protected		0.987			0.983			0.993			0.997	
Satd. Flow (prot)	0	1513	0	0	1547	0	0	1567	0	0	1585	0
Flt Permitted		0.865			0.809			0.883			0.958	
Satd. Flow (perm)	0	1326	0	0	1273	0	0	1394	0	0	1523	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			9			10			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	76	109	102	92	131	46	71	360	74	30	441	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	287	0	0	269	0	0	505	0	0	523	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	40.0	40.0		15.0	55.0		15.0	75.0		60.0	60.0	
Total Split (%)	30.8%	30.8%		11.5%	42.3%		11.5%	57.7%		46.2%	46.2%	
Maximum Green (s)	35.0	35.0		10.0	50.0		10.0	70.0		55.0	55.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			5.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		26.2			26.2			35.3			34.1	
Actuated g/C Ratio		0.37			0.37			0.50			0.48	
v/c Ratio		0.57			0.56			0.72			0.71	
Control Delay		23.5			24.5			21.3			21.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.5			24.5			21.3			21.0	
LOS		C			C			C			C	
Approach Delay		23.5			24.5			21.3			21.0	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		86			84			143			152	
Queue Length 95th (ft)		218			213			348			353	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		787			969			1263			1226	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.36			0.28			0.40			0.43	

Intersection Summary	
Area Type: Other	
Cycle Length: 130	
Actuated Cycle Length: 70.4	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	3	16	49	1	18	7	393	79	23	578	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965			0.964			0.978			0.997	
Flt Protected		0.966			0.965			0.999			0.998	
Satd. Flow (prot)	0	1687	0	0	1683	0	0	1768	0	0	1800	0
Flt Permitted		0.966			0.965			0.999			0.998	
Satd. Flow (perm)	0	1687	0	0	1683	0	0	1768	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	49	3	18	54	1	20	8	432	87	25	635	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	0	0	75	0	0	527	0	0	674	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 55.5%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	45	3	16	49	1	18	7	393	79	23	578	13
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	49	3	18	54	1	20	8	432	87	25	635	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1194	1227	642	1194	1191	475	649	0	0	519	0	0
Stage 1	693	693	-	491	491	-	-	-	-	-	-	-
Stage 2	501	534	-	703	700	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	161	176	469	161	185	584	923	-	-	1032	-	-
Stage 1	429	440	-	554	543	-	-	-	-	-	-	-
Stage 2	547	520	-	423	437	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	149	167	469	147	176	584	923	-	-	1032	-	-
Mov Capacity-2 Maneuver	149	167	-	147	176	-	-	-	-	-	-	-
Stage 1	424	423	-	547	536	-	-	-	-	-	-	-
Stage 2	521	514	-	389	420	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37	37.3	0.1	0.3
HCM LOS	E	E		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	923	-	-	181	184	1032	-	-
HCM Lane V/C Ratio	0.008	-	-	0.389	0.406	0.024	-	-
HCM Control Delay (s)	8.933	0	-	37	37.3	8.576	0	-
HCM Lane LOS	A	A		E	E	A	A	
HCM 95th %tile Q(veh)	0.025	-	-	1.698	1.811	0.075	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	25	63	30	422	551	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903				0.995	
Flt Protected	0.986			0.997		
Satd. Flow (prot)	1659	0	0	1857	1872	0
Flt Permitted	0.986			0.997		
Satd. Flow (perm)	1659	0	0	1857	1872	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	68	33	459	599	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	0	492	622	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.8%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	25	63	30	422	551	21
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	-2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	68	33	459	599	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	610	622	0	-	0
Stage 1	610	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	224	494	959	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	214	494	959	-	-	-
Mov Capacity-2 Maneuver	214	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.6	0.6	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	959	-	360	-	-
HCM Lane V/C Ratio	0.034	-	0.266	-	-
HCM Control Delay (s)	8.886	0	18.6	-	-
HCM Lane LOS	A	A	C		
HCM 95th %tile Q(veh)	0.106	-	1.052	-	-

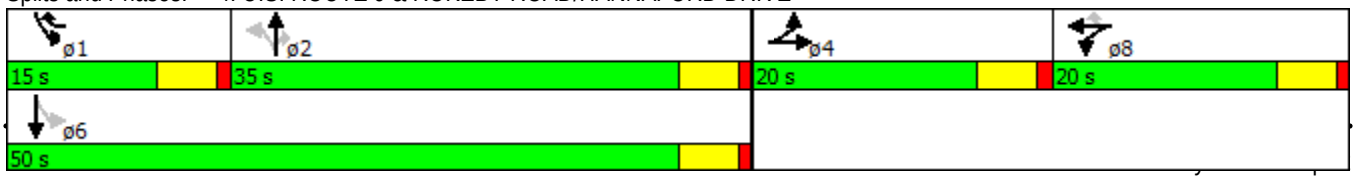
Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	6	21	16	2	30	6	342	21	44	485	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963				0.850			0.850		0.984	
Flt Protected		0.969			0.957		0.950			0.950		
Satd. Flow (prot)	0	1624	0	0	1775	1577	1629	1714	1457	1678	1798	0
Flt Permitted		0.969			0.957		0.441			0.440		
Satd. Flow (perm)	0	1624	0	0	1775	1577	756	1714	1457	777	1798	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				85			145		10	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	53	7	23	17	2	33	7	372	23	48	527	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	19	33	7	372	23	48	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		9.4			7.4	9.6	42.9	42.9	42.9	51.2	52.0	
Actuated g/C Ratio		0.14			0.11	0.14	0.63	0.63	0.63	0.75	0.76	
v/c Ratio		0.35			0.10	0.11	0.01	0.35	0.02	0.07	0.43	
Control Delay		26.2			30.1	0.8	11.0	11.6	0.0	4.9	6.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		26.2			30.1	0.8	11.0	11.6	0.0	4.9	6.5	
LOS		C			C	A	B	B	A	A	A	
Approach Delay		26.2			11.5			10.9			6.4	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)		22			7	0	1	72	0	4	65	
Queue Length 95th (ft)		68			28	0	9	215	0	24	260	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		396			417	374	472	1070	964	725	1366	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.21			0.05	0.09	0.01	0.35	0.02	0.07	0.43	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 68.6	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 54.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	9	15	4	44	44	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.915				0.992	
Flt Protected	0.982			0.996		
Satd. Flow (prot)	1626	0	0	1802	1795	0
Flt Permitted	0.982			0.996		
Satd. Flow (perm)	1626	0	0	1802	1795	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	218			466	249	
Travel Time (s)	5.0			10.6	5.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	10	17	4	49	49	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	53	52	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 15.6%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	9	15	4	44	44	3
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	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	10	17	4	49	49	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	109	51	52	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Follow-up Headway	3.545	3.345	2.245	-	-	-
Pot Capacity-1 Maneuver	881	1009	1535	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	878	1009	1535	-	-	-
Mov Capacity-2 Maneuver	878	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.6	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1535	-	956	-	-
HCM Lane V/C Ratio	0.003	-	0.028	-	-
HCM Control Delay (s)	7.352	0	8.9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.009	-	0.086	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	6	9	3	42	57	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.921				0.996	
Flt Protected	0.980			0.997		
Satd. Flow (prot)	1633	0	0	1804	1802	0
Flt Permitted	0.980			0.997		
Satd. Flow (perm)	1633	0	0	1804	1802	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	215			282	466	
Travel Time (s)	4.9			6.4	10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	7	10	3	47	63	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	50	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	9	3	42	57	2
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	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	7	10	3	47	63	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	117	64	66	0	-	0
Stage 1	64	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Follow-up Headway	3.545	3.345	2.245	-	-	-
Pot Capacity-1 Maneuver	872	992	1517	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	870	992	1517	-	-	-
Mov Capacity-2 Maneuver	870	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.5	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1517	-	939	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s)	7.378	0	8.9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.007	-	0.054	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	21	6	45	66	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.994		
Satd. Flow (prot)	1611	0	0	1852	1863	0
Flt Permitted				0.994		
Satd. Flow (perm)	1611	0	0	1852	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	232			403	282	
Travel Time (s)	5.3			9.2	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	23	7	49	72	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	0	56	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	21	6	45	66	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	7	49	72	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	134	72	72	0	-	0
Stage 1	72	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	860	990	1528	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	856	990	1528	-	-	-
Mov Capacity-2 Maneuver	856	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.9	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1528	-	990	-	-
HCM Lane V/C Ratio	0.004	-	0.023	-	-
HCM Control Delay (s)	7.366	0	8.7	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.013	-	0.071	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

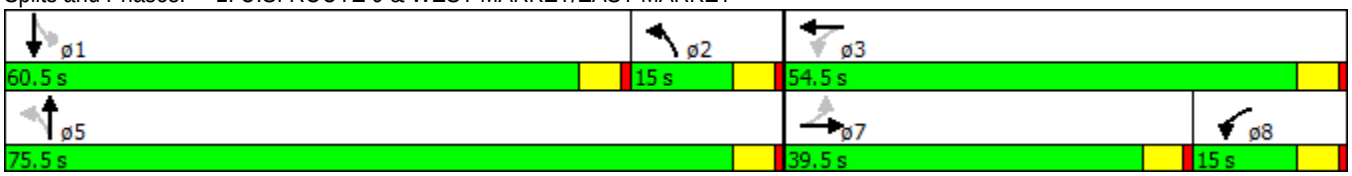
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	116	97	150	128	62	79	479	77	109	267	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.975			0.984			0.981	
Flt Protected		0.985			0.978			0.994			0.988	
Satd. Flow (prot)	0	1520	0	0	1536	0	0	1575	0	0	1561	0
Flt Permitted		0.767			0.653			0.888			0.681	
Satd. Flow (perm)	0	1183	0	0	1025	0	0	1407	0	0	1076	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			10			8			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1050			1377			968			752	
Travel Time (s)		23.9			31.3			22.0			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Parking (#/hr)		2			2			2			2	
Adj. Flow (vph)	103	123	103	160	136	66	84	510	82	116	284	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	0	0	362	0	0	676	0	0	466	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00	1.00	1.16	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		7		8	3		2	5			1	
Permitted Phases	7			3			5			1		
Detector Phase	7	7		8	3		2	5		1	1	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	20.0	20.0		10.0	35.0		10.0	45.0		30.0	30.0	
Total Split (s)	39.5	39.5		15.0	54.5		15.0	75.5		60.5	60.5	
Total Split (%)	30.4%	30.4%		11.5%	41.9%		11.5%	58.1%		46.5%	46.5%	
Maximum Green (s)	34.5	34.5		10.0	49.5		10.0	70.5		55.5	55.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lead	Lead		Lag			Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		None	None		None	Min		Min	Min	
Walk Time (s)	5.0	5.0			5.0			5.0		5.0	5.0	
Flash Dont Walk (s)	10.0	10.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effct Green (s)		45.4			45.4			65.1			65.1	
Actuated g/C Ratio		0.38			0.38			0.55			0.55	
v/c Ratio		0.71			0.91			0.87			0.78	
Control Delay		40.0			62.7			37.6			32.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		40.0			62.7			37.6			32.9	
LOS		D			E			D			C	
Approach Delay		40.0			62.7			37.6			32.9	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)		213			269			468			294	
Queue Length 95th (ft)		339			#472			#737			466	
Internal Link Dist (ft)		970			1297			888			672	
Turn Bay Length (ft)												
Base Capacity (vph)		462			448			862			594	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.71			0.81			0.78			0.78	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 118.6
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 41.8 Intersection LOS: D
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: U.S. ROUTE 9 & WEST MARKET/EAST MARKET



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	0	21	64	0	30	14	624	130	16	533	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.956			0.977			0.991	
Flt Protected		0.970			0.967			0.999			0.999	
Satd. Flow (prot)	0	1664	0	0	1673	0	0	1766	0	0	1791	0
Flt Permitted		0.970			0.967			0.999			0.999	
Satd. Flow (perm)	0	1664	0	0	1673	0	0	1766	0	0	1791	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		870			1112			1871			582	
Travel Time (s)		19.8			25.3			42.5			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	35	0	22	67	0	32	15	657	137	17	561	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	99	0	0	809	0	0	619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	33	0	21	64	0	30	14	624	130	16	533	39
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	35	0	22	67	0	32	15	657	137	17	561	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1386	1438	582	1381	1391	725	602	0	0	794	0	0
Stage 1	615	615	-	755	755	-	-	-	-	-	-	-
Stage 2	771	823	-	626	636	-	-	-	-	-	-	-
Follow-up Headway	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-	2.245	-	-
Pot Capacity-1 Maneuver	119	131	507	120	140	420	961	-	-	814	-	-
Stage 1	473	478	-	396	412	-	-	-	-	-	-	-
Stage 2	388	384	-	467	467	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	105	123	507	109	132	420	961	-	-	814	-	-
Mov Capacity-2 Maneuver	105	123	-	109	132	-	-	-	-	-	-	-
Stage 1	459	463	-	385	400	-	-	-	-	-	-	-
Stage 2	348	373	-	432	452	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.2	73.3	0.2	0.3
HCM LOS	E	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	961	-	-	152	143	814	-	-
HCM Lane V/C Ratio	0.015	-	-	0.374	0.692	0.021	-	-
HCM Control Delay (s)	8.804	0	-	42.2	73.3	9.516	0	-
HCM Lane LOS	A	A		E	F	A	A	
HCM 95th %tile Q(veh)	0.047	-	-	1.582	3.931	0.063	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	25	55	78	753	586	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.907				0.993	
Flt Protected	0.985			0.995		
Satd. Flow (prot)	1664	0	0	1853	1868	0
Flt Permitted	0.985			0.995		
Satd. Flow (perm)	1664	0	0	1853	1868	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			1538	1871	
Travel Time (s)	6.8			35.0	42.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	26	57	81	784	610	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	0	0	865	641	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			11	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	0.99	0.99
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	25	55	78	753	586	30
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	-2	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	57	81	784	610	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1573	626	642	0	-	0
Stage 1	626	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	121	484	943	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	103	484	943	-	-	-
Mov Capacity-2 Maneuver	103	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	320	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.3	0.9	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	943	-	224	-	-
HCM Lane V/C Ratio	0.086	-	0.372	-	-
HCM Control Delay (s)	9.177	0	30.3	-	-
HCM Lane LOS	A	A	D		
HCM 95th %tile Q(veh)	0.282	-	1.627	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

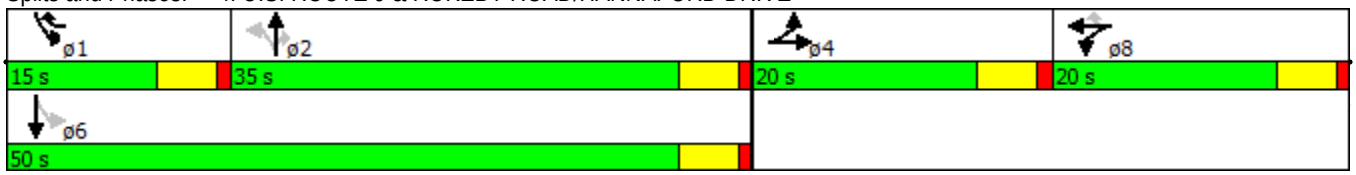
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	29	17	41	30	146	26	598	61	103	413	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	11	11	11	11	12	12
Grade (%)		1%			-5%			4%			-2%	
Storage Length (ft)	0		0	0		65	100		100	145		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850			0.850		0.971	
Flt Protected		0.969			0.972		0.950			0.950		
Satd. Flow (prot)	0	1658	0	0	1803	1577	1629	1714	1457	1678	1775	0
Flt Permitted		0.969			0.972		0.458			0.145		
Satd. Flow (perm)	0	1658	0	0	1803	1577	785	1714	1457	256	1775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				157			145		20	
Link Speed (mph)		35			35			40			30	
Link Distance (ft)		764			309			955			1538	
Travel Time (s)		14.9			6.0			16.3			35.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	91	31	18	44	32	157	28	643	66	111	444	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	76	157	28	643	66	111	552	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.05	1.01	0.97	0.97	0.97	1.07	1.07	1.07	1.03	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8	1		2		1	6	
Permitted Phases						8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	21.0	21.0	21.0	10.0	21.0	
Total Split (s)	20.0	20.0		20.0	20.0	15.0	35.0	35.0	35.0	15.0	50.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%	16.7%	38.9%	38.9%	38.9%	16.7%	55.6%	
Maximum Green (s)	15.0	15.0		15.0	15.0	10.0	30.0	30.0	30.0	10.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max	Max	None	Max	
Walk Time (s)							5.0	5.0	5.0		5.0	
Flash Dont Walk (s)							11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)							0	0	0		0	
Act Effct Green (s)		12.3			9.7	20.1	34.5	34.5	34.5	47.4	47.4	
Actuated g/C Ratio		0.16			0.12	0.25	0.44	0.44	0.44	0.60	0.60	
v/c Ratio		0.53			0.34	0.30	0.08	0.86	0.09	0.35	0.51	
Control Delay		37.8			37.5	5.6	18.2	37.5	0.2	12.3	12.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		37.8			37.5	5.6	18.2	37.5	0.2	12.3	12.9	
LOS		D			D	A	B	D	A	B	B	
Approach Delay		37.8			16.0			33.4			12.8	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		62			36	0	8	295	0	24	151	
Queue Length 95th (ft)		123			78	41	29	#597	0	56	288	
Internal Link Dist (ft)		684			229			875			1458	
Turn Bay Length (ft)						65	100		100	145		
Base Capacity (vph)		344			368	558	343	749	718	353	1073	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.41			0.21	0.28	0.08	0.86	0.09	0.31	0.51	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 61.1% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: U.S. ROUTE 9 & ROKEBY ROAD/HANNAFORD DRIVE



Two Way Analysis cannot be performed on Signalized Intersection.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	5	9	16	65	61	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.916				0.983	
Flt Protected	0.982			0.990		
Satd. Flow (prot)	1628	0	0	1791	1779	0
Flt Permitted	0.982			0.990		
Satd. Flow (perm)	1628	0	0	1791	1779	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	216			440	249	
Travel Time (s)	4.9			10.0	5.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	6	10	18	72	68	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	90	78	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	9	16	65	61	9
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	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	10	18	72	68	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	181	73	78	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Follow-up Headway	3.545	3.345	2.245	-	-	-
Pot Capacity-1 Maneuver	802	981	1502	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	792	981	1502	-	-	-
Mov Capacity-2 Maneuver	792	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.5	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	904	-	-
HCM Lane V/C Ratio	0.012	-	0.017	-	-
HCM Control Delay (s)	7.426	0	9.1	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.036	-	0.053	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	3	5	9	77	63	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910				0.988	
Flt Protected	0.984			0.995		
Satd. Flow (prot)	1620	0	0	1800	1788	0
Flt Permitted	0.984			0.995		
Satd. Flow (perm)	1620	0	0	1800	1788	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	192			308	440	
Travel Time (s)	4.4			7.0	10.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	3	6	10	86	70	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	0	0	96	77	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 21.2%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	5	9	77	63	6
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	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	3	6	10	86	70	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	179	73	77	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Follow-up Headway	3.545	3.345	2.245	-	-	-
Pot Capacity-1 Maneuver	804	981	1503	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	798	981	1503	-	-	-
Mov Capacity-2 Maneuver	798	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.8	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	903	-	-
HCM Lane V/C Ratio	0.007	-	0.01	-	-
HCM Control Delay (s)	7.411	0	9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.02	-	0.03	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	12	22	87	68	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.990		
Satd. Flow (prot)	1611	0	0	1844	1863	0
Flt Permitted				0.990		
Satd. Flow (perm)	1611	0	0	1844	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	192			403	308	
Travel Time (s)	4.4			9.2	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	13	24	95	74	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	119	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 22.5%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	12	22	87	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	24	95	74	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	216	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	772	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	759	988	1526	-	-	-
Mov Capacity-2 Maneuver	759	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.5	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1526	-	988	-	-
HCM Lane V/C Ratio	0.016	-	0.013	-	-
HCM Control Delay (s)	7.397	0	8.7	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.048	-	0.04	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

HOFFMAN PROPERTY RESIDENTIAL DEVELOPMENT

APPENDIX E

OTHER REFERENCED DATA

LOCATION: N./S. BROADWAY & E./W. MARKET STREET PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/05/12 DAY: TUESDAY JCE JOB #: 1905 START TIME: 06:30 **AM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
06:30 AM 06:45 AM	0	5	3	3	2	0	4	24	6	2	39	10	98	A	
06:45 AM 07:00 AM	2	5	2	5	3	2	4	18	5	1	47	4	98	A	
07:00 AM 07:15 AM	6	17	6	10	16	3	9	24	4	5	36	7	143	A	
07:15 AM 07:30 AM	8	15	10	13	53	2	9	28	9	8	50	22	227	A	566
07:30 AM 07:45 AM	19	19	15	16	42	4	25	49	7	4	71	25	296	A	764
07:45 AM 08:00 AM	18	20	7	10	13	1	7	46	6	7	69	8	212	A	878
08:00 AM 08:15 AM	17	11	10	21	26	5	11	43	10	5	73	10	242	A	977
08:15 AM 08:30 AM	7	15	12	16	24	10	14	52	11	4	73	12	250	A	1000
08:30 AM 08:45 AM	16	14	12	22	35	14	9	61	14	4	107	6	314	X	1018
08:45 AM 09:00 AM	14	25	15	14	27	8	15	65	12	7	104	20	326	X	1132
09:00 AM 09:15 AM	16	17	14	18	21	8	15	41	9	6	70	9	244	X	1134
09:15 AM 09:30 AM	17	11	12	10	26	8	13	57	14	8	72	8	256	X	1140
09:30 AM 09:45 AM													0	A	826
09:45 AM 10:00 AM													0	A	500
10:00 AM 10:15 AM													0	A	256
10:15 AM 10:30 AM													0	A	0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM 08:45 AM	16	14	12	22	35	14	9	61	14	4	107	6	314
08:45 AM 09:00 AM	14	25	15	14	27	8	15	65	12	7	104	20	326
09:00 AM 09:15 AM	16	17	14	18	21	8	15	41	9	6	70	9	244
09:15 AM 09:30 AM	17	11	12	10	26	8	13	57	14	8	72	8	256
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:30 AM 09:30 AM	63	67	53	64	109	38	52	224	49	25	353	43	1140	0.874233
PHF BY MOVEMENT	0.93	0.67	0.88	0.73	0.78	0.68	0.87	0.86	0.88	0.78	0.82	0.54		
PHF BY APPROACH		0.85			0.74			0.88			0.80			

43	**353**	**25**	^	6	**38**
12	11	10	<	5	**109**
<	v	>	v	4	**64**
63	1	^	<	^	>
67	2	>	7	8	9
53	3	v	**52**	**224**	**49**

LOCATION: S. BROADWAY & AMHERST RD/FIREHOUSE RD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/05/12 DAY: TUESDAY JCE JOB #: 1905 START TIME : 06:30 **AM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
06:30 AM 06:45 AM	2		3	1		3	0	39	1	2	68	0	119	A	
06:45 AM 07:00 AM	5		4	6		0	1	57	4	2	94	2	175	A	
07:00 AM 07:15 AM	9		2	8		3	1	49	1	1	86	1	161	A	
07:15 AM 07:30 AM	12		3	5		1	1	78	4	2	114	6	226	A	681
07:30 AM 07:45 AM	11		6	2		2	0	68	10	2	113	3	217	A	779
07:45 AM 08:00 AM	6		5	3		3	0	84	12	2	128	5	248	A	852
08:00 AM 08:15 AM	3		2	5		2	4	69	11	1	117	2	216	A	907
08:15 AM 08:30 AM	7		2	9		2	3	79	14	4	123	0	243	X	924
08:30 AM 08:45 AM	7		2	9		3	1	90	17	5	135	1	270	X	977
08:45 AM 09:00 AM	11		7	7		5	1	95	24	5	128	3	286	X	1015
09:00 AM 09:15 AM	3		4	14		7	2	73	16	8	118	4	249	X	1048
09:15 AM 09:30 AM	1		4	16		3	2	78	17	2	112	3	238	A	1043
09:30 AM 09:45 AM													0	A	773
09:45 AM 10:00 AM													0	A	487
10:00 AM 10:15 AM													0	A	238
10:15 AM 10:30 AM													0	A	0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM 08:30 AM	7	0	2	9	0	2	3	79	14	4	123	0	243
08:30 AM 08:45 AM	7	0	2	9	0	3	1	90	17	5	135	1	270
08:45 AM 09:00 AM	11	0	7	7	0	5	1	95	24	5	128	3	286
09:00 AM 09:15 AM	3	0	4	14	0	7	2	73	16	8	118	4	249
09:15 AM 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:15 AM 09:15 AM	28	0	15	39	0	17	7	337	71	22	504	8	1048	0.916084
PHF BY MOVEMENT	0.64	#DIV/0!	0.54	0.70	#DIV/0!	0.61	0.58	0.89	0.74	0.69	0.93	0.50		
PHF BY APPROACH		0.60			0.67			0.86			0.95			

8	504	22	^	6	17
12	11	10	<	5	0
<	v	>	v	4	39
28	1	^	<	^	>
0	2	>	7	8	9
15	3	v	7	337	71

LOCATION: U.S. ROUTE 9 & HANNAFORD DR/ROKEBY RD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/07/12 DAY: THURSDAY JCE JOB #: 1905 START TIME : 06:30 **AM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
06:30 AM 06:45 AM	1	1	1	3	1	2	0	25	1	2	62	5	104	A	
06:45 AM 07:00 AM	4	1	0	0	2	0	0	23	3	1	61	5	100	A	
07:00 AM 07:15 AM	5	1	2	2	4	0	2	25	1	1	43	10	96	A	
07:15 AM 07:30 AM	8	1	3	0	0	3	1	26	0	0	63	4	109	A	409
07:30 AM 07:45 AM	17	0	10	2	1	4	2	43	2	5	90	8	184	A	489
07:45 AM 08:00 AM	10	0	3	1	1	6	0	47	3	9	82	16	178	A	567
08:00 AM 08:15 AM	12	1	6	2	0	4	0	43	3	3	85	15	174	A	645
08:15 AM 08:30 AM	6	0	1	0	1	1	1	35	0	5	70	7	127	A	663
08:30 AM 08:45 AM	11	2	5	1	0	4	2	57	5	4	71	8	170	X	649
08:45 AM 09:00 AM	8	0	4	1	2	4	2	53	3	9	68	13	167	X	638
09:00 AM 09:15 AM	17	2	8	6	0	8	2	73	4	11	84	18	233	X	697
09:15 AM 09:30 AM	10	2	3	7	0	12	0	67	8	15	88	15	227	X	797
09:30 AM 09:45 AM													0	A	627
09:45 AM 10:00 AM													0	A	460
10:00 AM 10:15 AM													0	A	227
10:15 AM 10:30 AM													0	A	0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM 08:45 AM	11	2	5	1	0	4	2	57	5	4	71	8	170
08:45 AM 09:00 AM	8	0	4	1	2	4	2	53	3	9	68	13	167
09:00 AM 09:15 AM	17	2	8	6	0	8	2	73	4	11	84	18	233
09:15 AM 09:30 AM	10	2	3	7	0	12	0	67	8	15	88	15	227
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:30 AM 09:30 AM	46	6	20	15	2	28	6	250	20	39	311	54	797	0.85515
PHF BY MOVEMENT	0.68	0.75	0.63	0.54	0.25	0.58	0.75	0.86	0.63	0.65	0.88	0.75		
PHF BY APPROACH		0.67			0.59			0.87			0.86			

54	**311**	**39**	^	6	**28**
12	11	10	<	5	**2**
<	v	>	v	4	**15**
46	1	^	<	^	>
6	2	>	7	8	9
20	3	v	**6**	**250**	**20**

LOCATION: U.S. ROUTE 9 & OLD FARM ROAD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/07/12 DAY: THURSDAY JCE JOB #: 1905 START TIME: 06:30 **AM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
06:30 AM 06:45 AM	3		5				1	33			75	1	118	A	
06:45 AM 07:00 AM	2		3				3	34			96	5	143	A	
07:00 AM 07:15 AM	1		2				0	46			88	4	141	A	
07:15 AM 07:30 AM	3		4				5	61			102	3	178	A	580
07:30 AM 07:45 AM	7		4				2	55			119	7	194	A	656
07:45 AM 08:00 AM	5		6				6	64			96	9	186	A	699
08:00 AM 08:15 AM	3		6				2	54			95	8	168	A	726
08:15 AM 08:30 AM	5		5				1	73			106	13	203	A	751
08:30 AM 08:45 AM	5		6				4	81			123	4	223	X	780
08:45 AM 09:00 AM	7		8				4	91			124	7	241	X	835
09:00 AM 09:15 AM	1		6				9	102			106	4	228	X	895
09:15 AM 09:30 AM	5		2				1	91			114	3	216	X	908
09:30 AM 09:45 AM													0	A	685
09:45 AM 10:00 AM													0	A	444
10:00 AM 10:15 AM													0	A	216
10:15 AM 10:30 AM													0	A	0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM 08:45 AM	5	0	6	0	0	0	4	81	0	0	123	4	223
08:45 AM 09:00 AM	7	0	8	0	0	0	4	91	0	0	124	7	241
09:00 AM 09:15 AM	1	0	6	0	0	0	9	102	0	0	106	4	228
09:15 AM 09:30 AM	5	0	2	0	0	0	1	91	0	0	114	3	216
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
08:30 AM 09:30 AM	18	0	22	0	0	0	18	365	0	0	467	18	908	0.941909
PHF BY MOVEMENT	0.64	#DIV/0!	0.69	#DIV/0!	#DIV/0!	#DIV/0!	0.50	0.89	#DIV/0!	#DIV/0!	0.94	0.64		
PHF BY APPROACH		0.67			#DIV/0!			0.86			0.93			

18	**467**	**0**	^	6	**0**
12	11	10	<	5	**0**
<	v	>	v	4	**0**
18	1	^	<	^	>
0	2	>	7	8	9
22	3	v	**18**	**365**	**0**

LOCATION: N./S. BROADWAY & E./W. MARKET STREET PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/04/12 DAY: MONDAY JCE JOB #: 1905 START TIME: 15:30 **PM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
03:30 PM 03:45 PM	25	31	16	18	39	9	14	101	13	9	68	13	356	A	
03:45 PM 04:00 PM	21	31	15	27	23	11	17	116	9	7	64	11	352	A	
04:00 PM 04:15 PM	19	34	16	25	28	18	16	101	18	6	75	9	365	A	
04:15 PM 04:30 PM	13	26	17	27	26	14	20	96	12	4	62	13	330	A	1403
04:30 PM 04:45 PM	26	30	16	21	28	15	8	104	17	7	70	15	357	X	1404
04:45 PM 05:00 PM	14	16	18	27	24	13	16	105	20	3	70	11	337	X	1389
05:00 PM 05:15 PM	28	28	15	34	32	17	16	99	13	8	74	10	374	X	1398
05:15 PM 05:30 PM	24	36	12	22	38	14	16	92	8	2	70	11	345	X	1413
05:30 PM 05:45 PM	21	34	10	25	35	13	16	92	16	3	47	9	321	A	1377
05:45 PM 06:00 PM	11	25	12	13	25	10	16	77	21	5	57	14	286	A	1326
06:00 PM 06:15 PM	19	28	17	16	23	8	10	90	21	8	60	6	306	A	1258
06:15 PM 06:30 PM	20	11	15	12	17	10	8	51	9	6	53	7	219	A	1132
06:30 PM 06:45 PM	20	19	8	16	30	10	13	72	11	8	48	10	265	A	1076
06:45 PM 07:00 PM	13	14	7	8	21	8	12	53	10	6	38	6	196	A	986
07:00 PM 07:15 PM													0	A	680
07:15 PM 07:30 PM													0	A	461

CALCULATED PEAK 15-MINUTE VOLUMES

03:30 PM 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM 04:45 PM	26	30	16	21	28	15	8	104	17	7	70	15	357
04:45 PM 05:00 PM	14	16	18	27	24	13	16	105	20	3	70	11	337
05:00 PM 05:15 PM	28	28	15	34	32	17	16	99	13	8	74	10	374
05:15 PM 05:30 PM	24	36	12	22	38	14	16	92	8	2	70	11	345
05:30 PM 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:30 PM 05:30 PM	92	110	61	104	122	59	56	400	58	20	284	47	1413	0.944519
PHF BY MOVEMENT	0.82	0.76	0.85	0.76	0.80	0.87	0.88	0.95	0.73	0.63	0.96	0.78		
PHF BY APPROACH		0.91			0.86			0.91			0.95			

47	**284**	**20**	^	6	**59**
12	11	10	<	5	**122**
<	v	>	v	4	**104**
92	1	^	<	^	>
110	2	>	7	8	9
61	3	v	**56**	**400**	**58**

LOCATION: S. BROADWAY & AMHERST RD/FIREHOUSE RD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/04/12 DAY: MONDAY JCE JOB #: 1905 START TIME : 15:30 **PM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
03:30 PM 03:45 PM	12		3	8		4	3	129	31	3	125	9	327	X	
03:45 PM 04:00 PM	5		5	8		8	3	149	28	5	120	5	336	X	
04:00 PM 04:15 PM	4		6	22		10	3	139	29	4	119	6	342	X	
04:15 PM 04:30 PM	2		6	18		7	4	123	28	3	102	2	295	X	1300
04:30 PM 04:45 PM	2		0	14		6	5	132	30	3	108	9	309	A	1282
04:45 PM 05:00 PM	6		4	12		7	6	151	18	4	115	8	331	A	1277
05:00 PM 05:15 PM	4		9	25		9	5	123	26	4	130	9	344	A	1279
05:15 PM 05:30 PM	8		3	16		4	5	126	28	2	88	14	294	A	1278
05:30 PM 05:45 PM	8		3	9		6	1	114	18	6	98	7	270	A	1239
05:45 PM 06:00 PM	7		4	13		4	6	112	15	3	89	3	256	A	1164
06:00 PM 06:15 PM	2		4	11		4	6	122	14	1	96	6	266	A	1086
06:15 PM 06:30 PM	4		5	9		7	5	83	13	3	81	6	216	A	1008
06:30 PM 06:45 PM	2		2	4		1	2	101	11	4	75	8	210	A	948
06:45 PM 07:00 PM	5		2	10		5	7	83	12	2	55	5	186	A	878
07:00 PM 07:15 PM													0	A	612
07:15 PM 07:30 PM													0	A	396

CALCULATED PEAK 15-MINUTE VOLUMES

03:30 PM 03:45 PM	12	0	3	8	0	4	3	129	31	3	125	9	327
03:45 PM 04:00 PM	5	0	5	8	0	8	3	149	28	5	120	5	336
04:00 PM 04:15 PM	4	0	6	22	0	10	3	139	29	4	119	6	342
04:15 PM 04:30 PM	2	0	6	18	0	7	4	123	28	3	102	2	295
04:30 PM 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
03:30 PM 04:30 PM	23	0	20	56	0	29	13	540	116	15	466	22	1300	0.950292
PHF BY MOVEMENT	0.48	#DIV/0!	0.83	0.64	#DIV/0!	0.73	0.81	0.91	0.94	0.75	0.93	0.61		
PHF BY APPROACH		0.72			0.66			0.93			0.92			

22	**466**	**15**	^	6	**29**
12	11	10	<	5	**0**
<	v	>	v	4	**56**
23	1	^	<	^	>
0	2	>	7	8	9
20	3	v	**13**	**540**	**116**

LOCATION: U.S. ROUTE 9 & OLD FARM ROAD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/06/12 DAY: WEDNESDAY JCE JOB #: 1905 START TIME: 15:30 **PM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total		
03:30 PM 03:45 PM	4		6				6	149			123	10	298	A	
03:45 PM 04:00 PM	5		3				9	146			96	7	266	A	
04:00 PM 04:15 PM	1		4				11	168			145	9	338	A	
04:15 PM 04:30 PM	4		3				11	163			119	6	306	A	1208
04:30 PM 04:45 PM	9		9				8	188			113	5	332	X	1242
04:45 PM 05:00 PM	4		6				6	149			136	4	305	X	1281
05:00 PM 05:15 PM	2		9				9	177			133	8	338	X	1281
05:15 PM 05:30 PM	6		7				13	177			132	6	341	X	1316
05:30 PM 05:45 PM	6		8				14	143			93	7	271	A	1255
05:45 PM 06:00 PM	4		4				12	160			115	8	303	A	1253
06:00 PM 06:15 PM	4		8				9	136			98	1	256	A	1171
06:15 PM 06:30 PM	5		8				5	143			97	1	259	A	1089
06:30 PM 06:45 PM	8		9				4	103			93	3	220	A	1038
06:45 PM 07:00 PM	3		5				6	92			76	1	183	A	918
07:00 PM 07:15 PM													0	A	662
07:15 PM 07:30 PM													0	A	403

CALCULATED PEAK 15-MINUTE VOLUMES

03:30 PM 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM 04:45 PM	9	0	9	0	0	0	8	188	0	0	113	5	332
04:45 PM 05:00 PM	4	0	6	0	0	0	6	149	0	0	136	4	305
05:00 PM 05:15 PM	2	0	9	0	0	0	9	177	0	0	133	8	338
05:15 PM 05:30 PM	6	0	7	0	0	0	13	177	0	0	132	6	341
05:30 PM 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:30 PM 05:30 PM	21	0	31	0	0	0	36	691	0	0	514	23	1316	0.964809
PHF BY MOVEMENT	0.58	#DIV/0!	0.86	#DIV/0!	#DIV/0!	#DIV/0!	0.69	0.92	#DIV/0!	#DIV/0!	0.94	0.72		
PHF BY APPROACH		0.72			#DIV/0!			0.93			0.95			

23	**514**	**0**	^	6	**0**
12	11	10	<	5	**0**
<	v	>	v	4	**0**
21	1	^	<	^	>
0	2	>	7	8	9
31	3	v	**36**	**691**	**0**

LOCATION: U.S. ROUTE 9 & HANNAFORD DR/ROKEBY RD PROJECT: HOFFMAN PROPERTY

DATE OF COUNT: 06/06/12 DAY: WEDNESDAY JCE JOB #: 1905 START TIME : 15:30 **PM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

		EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
PM PEAK HOUR		1	2	3	4	5	6	7	8	9	10	11	12	total		
03:30 PM	03:45 PM	17	6	4	5	2	21	5	114	21	23	90	16	324	A	
03:45 PM	04:00 PM	17	8	4	9	6	36	2	114	17	30	55	7	305	A	
04:00 PM	04:15 PM	20	4	2	7	9	24	1	106	13	34	81	24	325	A	
04:15 PM	04:30 PM	21	6	3	4	5	38	7	101	16	22	74	21	318	A	1272
04:30 PM	04:45 PM	17	8	5	10	9	37	6	125	24	24	74	29	368	X	1316
04:45 PM	05:00 PM	18	7	3	8	6	31	10	106	11	18	69	28	315	X	1326
05:00 PM	05:15 PM	29	8	6	7	6	26	7	109	11	29	84	24	346	X	1347
05:15 PM	05:30 PM	14	5	2	14	8	42	2	119	12	25	89	13	345	X	1374
05:30 PM	05:45 PM	24	2	3	7	2	24	2	106	12	17	67	11	277	A	1283
05:45 PM	06:00 PM	20	1	5	3	7	22	6	104	16	23	64	14	285	A	1253
06:00 PM	06:15 PM	16	4	1	9	5	34	2	90	7	12	65	18	263	A	1170
06:15 PM	06:30 PM	20	1	2	1	4	24	4	84	8	12	63	10	233	A	1058
06:30 PM	06:45 PM	18	7	3	4	2	21	1	72	7	15	61	12	223	A	1004
06:45 PM	07:00 PM	13	9	1	5	2	24	6	52	2	14	57	12	197	A	916
07:00 PM	07:15 PM													0	A	653
07:15 PM	07:30 PM													0	A	420

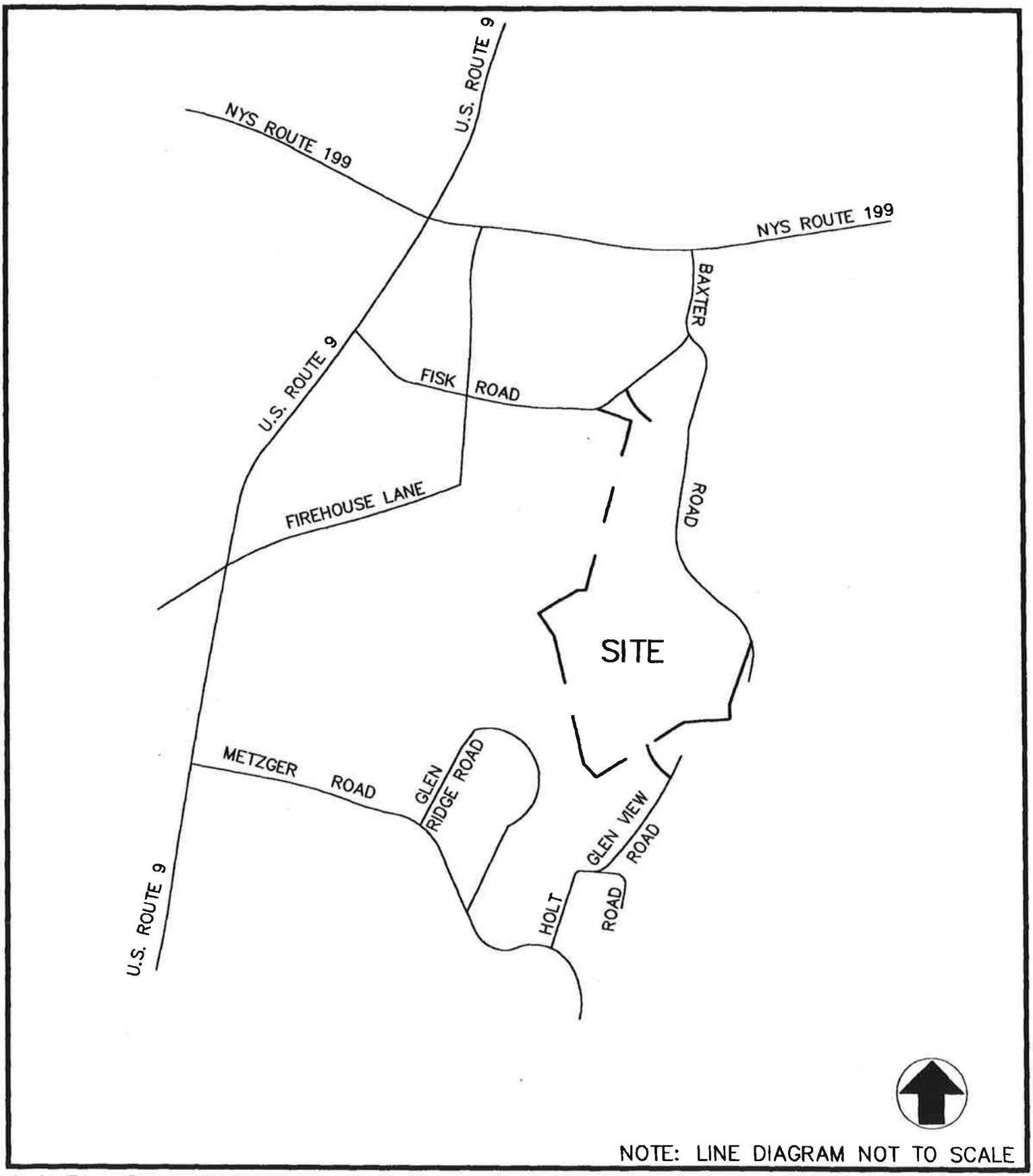
CALCULATED PEAK 15-MINUTE VOLUMES

03:30 PM	03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	04:45 PM	17	8	5	10	9	37	6	125	24	24	74	29	368
04:45 PM	05:00 PM	18	7	3	8	6	31	10	106	11	18	69	28	315
05:00 PM	05:15 PM	29	8	6	7	6	26	7	109	11	29	84	24	346
05:15 PM	05:30 PM	14	5	2	14	8	42	2	119	12	25	89	13	345
05:30 PM	05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM	07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

CALCULATED PEAK HOUR VOLUMES

PM PEAK HOUR		1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
04:30 PM	05:30 PM	78	28	16	39	29	136	25	459	58	96	316	94	1374	0.933424
PHF BY MOVEMENT		0.67	0.88	0.67	0.70	0.81	0.81	0.63	0.92	0.60	0.83	0.89	0.81		
PHF BY APPROACH			0.71			0.80			0.87			0.92			

94	**316**	**96**	^	6	**136**
12	11	10	<	5	**29**
<	v	>	v	4	**39**
78	1	^	<	^	>
28	2	>	7	8	9
16	3	v	**25**	**459**	**58**



ANDERSON COMMONS

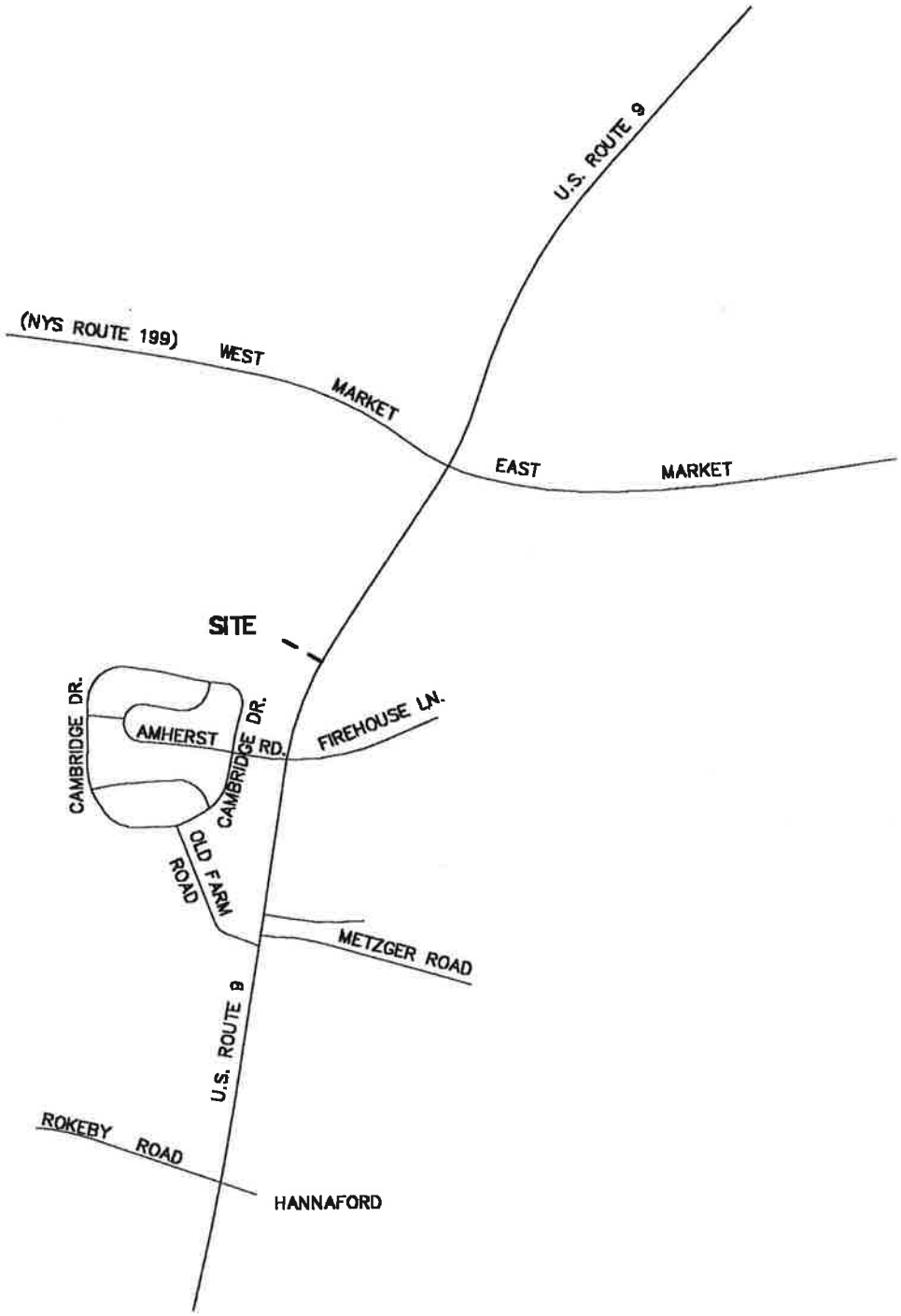
RED HOOK, NEW YORK

SITE LOCATION MAP

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 152 DATE: JUNE 2005

FIG. NO.1



NOTE: LINE DIAGRAM NOT TO SCALE

RED OAKS SENIOR COMMUNITY

SITE LOCATION MAP

VILLAGE OF RED HOOK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 977 DATE: JANUARY 2005 FIG. NO. 1